APPLICATION	
UNLESS OTHERWISE SPECIFIED SEE SEPARATE APPLICATION LIST	
NEXT ASSY	USED ON
2113120	MOD 345
2216121	

REVISIONS

LTR	DESCRIPTION	DATE	APPROVED
G	SEE SHEET 2		

RECEIVED JUN 10 1992

SPECIFICATION CONTROL DRAWING

REV																			
SHEET																			
REV	G	G	G	G	G	G	G	G											
SHEET	20	21	22	23	24	25	26	27											
REV STATUS OF SHEETS — REV	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G
SHEET	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	CONTRACT NO. F33657-75-C-0310	**GENERAL DYNAMICS** *Electronics Division San Diego, CA*
DECIMAL TOLERANCES: .XX ± .03 .XXX ± .010 ANGLE ± 2°	DRAWN G.WILLIAMS 11 MAR 77 CHECKED R.T. GUMMINGS 28 MAR 77 ENGINEER F.MACHADO 3/17/77	POWER MONITOR, LINE
	DESIGN ACTIVITY APPROVAL B.G.MERTIES 3/19/77	SIZE A CAGE CODE 12436 DRAWING NO. 6010663
RELEASE DATE 29 MAR '77 REL 1		SCALE NONE SHEET 1 OF 27

REVISIONS

LTR	DESCRIPTION	DATE	APPROVED
F	REPLACES REV E WITH CHANGE. SEE CN D09937 G.T 91/19/07	92-02-05	Victor T. Ang 91/07/30 V.S.
G	REVISED PER CN D 02124. NHT 92/05/22	92-05-27 5/29/92 92-05-29	G. Fantozzi V.S.

SIZE	CAGE CODE	DRAWING NO.	
A	12436	6010663	
SCALE NONE		REV G	SHEET 2

5-804-1, 3/91

SUGGESTED SOURCE(S) OF SUPPLY

CONTROL NO.	CAGE CODE	VENDOR PART NO.	VENDOR
6010663-001 3/4/	13979	101526	PARKO ELECTRONICS CO., INC.
6010663-002 3/4/	13979	101529	16722 MILLIKEN AVENUE
6010663-003 4/			IRVINE, CA 92664
6010663-004 3/	13979	101550	
6010663-005 3/	13979	101665	
6010663-006 3/	13979	101900	
6010663-008 3/	13979	101903	
6010663-009 3/	13979	101905	
6010663-001 3/4/	15420	2/	LOGITEK, INC.
6010663-002 3/4/	15420	2/	1010 CHRISTOPHER ST
6010663-003 4/			RONKONKOMA NY
6010663-004 3/	15420	100-096	11770-6922
6010663-005 3/	15420	100-097-1	
6010663-006 3/	15420	100-525	
6010663-007 3/	15420	100-526	

NOTES:

1 PREPARED IN ACCORDANCE TO MIL-STD-100A.

2/ TO BE ADDED LATER.

3/ -001 AND -002 SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S DATA SHEET, -004, -005, -006, -007, -008 AND -009 SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS SPECIFIED HEREIN.

4/ NOT FOR PROCUREMENT.

SIZE A	CAGE CODE 12436	DRAWING NO.	6010663
SCALE	NONE	REV G	SHEET 3

1. SCOPE

THIS DOCUMENT DEFINES THE REQUIREMENTS FOR AC POWER LINE MONITORS, 60 AND 400 HZ.

2. APPLICABLE DOCUMENTS

2.1 GOVERNMENT DOCUMENTS

DOCUMENTS ARE APPLICABLE TO THIS SPECIFICATION TO THE EXTENT SPECIFIED IN SECTION 3 OR 4. DOCUMENTS REFERENCED WITHIN THE DOCUMENTS CITED HEREIN SHALL NOT BE APPLICABLE TO THIS SPECIFICATION BECAUSE OF SUCH REFERENCE.

SPECIFICATIONS

MILITARY

MIL-C-83723	CONNECTOR, ELECTRICAL CIRCULAR, ENVIRONMENT RESISTING, RECEPTACLES AND PLUGS, GENERAL SPECIFICATION FOR
MIL-C-38999	CONNECTOR, ELECTRICAL CIRCULAR, MINIATURE, HIGH DENSITY QUICK DISCONNECT (BAYONET, THREADED AND BREECH COUPLING), ENVIRONMENT RESISTANT, REMOVABLE CRIMP AND HERMETIC SOLDER CONTACTS, GENERAL SPECIFICATION FOR

STANDARDS

MIL-STD-107	PREPARATION AND HANDLING OF INDUSTRIAL PLANT EQUIPMENT AND STORAGE

MIL-STD-1285	MARKING OF ELECTRICAL AND ELECTRONIC PARTS
MIL-STD-810	ENVIRONMENTAL TEST METHODS AND ENGINEERING GUIDELINES
MS3476	CONNECTORS, PLUG, ELECTRIC, SERIES 2, CRIMP TYPE, BAYONET COUPLING, CLASSES A, L, S, AND W

2.2 PRECEDENCE

THE ORDER OF PRECEDENCE IS:

A. THIS SPECIFICATION
B. MILITARY SPECIFICATIONS
C. MILITARY STANDARDS

3. REQUIREMENTS

3.1 GENERAL

3.1.1 -004 , -005, AND -007

THESE ITEMS MONITOR POWER SOURCE VOLTAGE, FREQUENCY, AND PHASE ROTATION. THREE TTL OUTPUTS ARE GENERATED ON THE -004 AND -005 AND TWO RELAY CONTACTS ARE CLOSED UPON THE MONITOR SENSING CONFORMANCE WITH ESTABLISHED ELECTRICAL PARAMETERS. THE TTL OUTPUTS ON THE -004 AND -005 REFLECT THE STATUS OF INDIVIDUAL PARAMETERS IN NEAR REAL TIME. RELAY DROP OUT, INITIATED BY A DISCREPANCY IN ANY ONE PARAMETER, MAY BE DELAYED UP TO 2.5 SECONDS. INTEGRAL ELECTRICAL ISOLATION IS PROVIDED BETWEEN AC POWER LINE SENSORY CIRCUITS AND THE DC POWER INPUT, TTL AND RELAY CIRCUITS.

3.1.2 -006, -008 AND -009

THESE ITEM(S) MONITOR POWER SOURCE VOLTAGE AND FREQUENCY AND PROVIDE TWO PAIRS OF RELAY CONTACTS WHICH ARE CLOSED UPON THE MONITOR SENSING CONFORMANCE WITH THE ESTABLISHED ELECTRICAL PARAMETERS. THE AC AND DC INPUTS SHALL BE ISOLATED FROM EACH OTHER AND CASE GROUND.

3.2 CHARACTERISTICS

3.2.1 ELECTRICAL

3.2.1.1 DC INPUT POWER, RANGE

A. -004, -005: 20 TO 32 VOLTS, 100 MILLIAMPERES, MAXIMUM
B. -006, -008, -009: 20 TO 32 VOLTS, 250 MILLIAMPERES, MAXIMUM
C. -007: NOT APPLICABLE

3.2.1.2 SENSING VOLTAGE, RMS

THE SENSING VOLTAGE, RMS, SHALL BE MEASURED PHASE TO NEUTRAL IN A 3 PHASE, 4 WIRE, WYE CONNECTED SYSTEM.

A. -005: 45 TO 74 HZ, 90 TO 145 VRMS
B. -004: 365 TO 430 HZ, 90 TO 145 VRMS
C. -007: 360 TO 440 HZ, 104 TO 126 VRMS

THE INPUT IMPEDANCE, PHASE TO NEUTRAL, SHALL BE NOT LESS THAN 1K OHMS.

3.2.1.2.1 VOLTAGE TRANSIENTS (-006, -008, -009)

THE ITEM SHALL BE CAPABLE OF WITHSTANDING VOLTAGE TRANSIENTS IN ACCORDANCE WITH MIL-STD-107.

3.2.1.3 OPERATION

A. THE INTERNAL RELAY SHALL BE ENERGIZED, WITHIN A DELAY OF 100 MILLISECONDS MAXIMUM AFTER THE APPLICATION OF DC. -006, -008, -009 RELAY PICKUP WILL OCCUR BETWEEN 1.5 AND 2.5 SECONDS.

B. THE FAULT OUTPUT SHALL BE A RELAY ENERGIZED WITH NOMINAL VOLTAGE, FREQUENCY, AND PHASE ROTATION (WHEN REQUIRED) POWER APPLIED TO THE UNIT. WHEN A FAULT IS DETECTED, THE RELAY SHALL CHANGE STATE.

3.2.1.4 RELAY CONTACTS

A. DPDT, 2 AMPERES RESISTIVE, 1 AMPERE INDUCTIVE AT 28 VDC MIN.
B. THE TIME DELAY ON DROPOUT SHALL BE EXTERNALLY ADJUSTABLE FOR THE -004 AND -005 FROM 0.25 SECONDS TO 2.5 SECONDS.
C. THE -006 DROPOUT TIME SHALL NOT EXCEED 250 MILLISECONDS.
D. THE -008 DROPOUT TIME DELAY SHALL BE BETWEEN 150 MILLISECONDS AND 250 MILLISECONDS FOR VD1 AND VD2, AND SHALL NOT EXCEED 250 MILLISECONDS FOR FD1 AND FD2.
E. THE -009 DROPOUT TIME DELAY SHALL BE BETWEEN 150 MILLISECONDS AND 250 MILLISECONDS FOR VD1, VD2, FD1 AND FD2.

3.2.1.5 FAULT OUTPUTS (-004 AND -005 ONLY)

FAULT OUTPUTS FOR VOLTAGE, FREQUENCY, AND PHASE ROTATION SHALL BE PROVIDED AND SHALL CONFORM TO THE FOLLOWING:

A. TTL COMPATIBLE
    1) SOURCE CURRENT SHALL BE 1 MILLIAMPERE MINIMUM AT 3.5 ± 1 VDC, FOR A NO FAULT CONDITION.
    2) SINK CURRENT SHALL BE 10 MILLIAMPERES MINIMUM AT 0.5 VDC MAXIMUM, FOR A FAULT CONDITION.

B. THE RESPONSE TIME WITH A 10 % OVER TRIP SIGNAL SHALL NOT EXCEED THE FOLLOWING:
    1) -005 150 MILLISECONDS
    2) -004 30 MILLISECONDS

3.2.1.6 TRIP POINT RANGE

THE VOLTAGE TRIP POINT ADJUSTMENTS FOR THE -004 AND -005 INCOMING LINE VOLTAGE SHALL BE MADE ONE PHASE AT A TIME, I.E.; TWO PHASES MAINTAINED AT NOMINAL WITH THE REMAINING PHASE VARIED INDEPENDENTLY. THE VOLTAGE TRIP POINT FOR THE -006, -007, -008 AND -009 ARE FACTORY SET AND FIXED.

A. HIGH VOLTAGE
    1) -004, -005: EXTERNALLY ADJUSTABLE FROM 115 TO 145 VAC, MINIMUM, SINGLE PHASE TO NEUTRAL, RESET DIFFERENTIAL 2 VAC, MAXIMUM, WITH A STABILITY OF ±1 VAC.
    2) -006, -008, -009: FACTORY SET AT 266 VAC L-L (VD1) AND 133 VAC L-N (VD2).
    3) -007: FACTORY SET AT 127 VAC.

B. LOW VOLTAGE

1) -004, -005: EXTERNALLY ADJUSTABLE FROM 90 TO 108 VAC, MINIMUM, SINGLE PHASE TO NEUTRAL, RESET DIFFERENTIAL 2 VAC, MAXIMUM, WITH A STABILITY OF ±1 VAC.
2) -006, -008, -009: FACTORY SET AT 179 VAC L-L (VD1) AND 107 VAC L-N (VD2).
3) -007: FACTORY SET AT 103 VAC.

C. HIGH FREQUENCY

1) -005: EXTERNALLY ADJUSTABLE FROM 63 TO 74 HZ, MINIMUM. RESET DIFFERENTIAL, 1 HZ MAXIMUM. STABILITY ± 0.5 HZ.
2) -006, -008, -009: FACTORY SET AT 67 HZ (FD1).

D. HIGH FREQUENCY

1) -004: EXTERNALLY ADJUSTABLE FROM 410 TO 430 HZ, MINIMUM. RESET DIFFERENTIAL, 6 HZ MAXIMUM. STABILITY ± 3.0 HZ.
2) -006, -008, -009: FACTORY SET AT 444 HZ (FD2).
3) -007: FACTORY SET AT 441 HZ.

E. LOW FREQUENCY

1) -005: EXTERNALLY ADJUSTABLE FROM 45 TO 55 HZ, MINIMUM. RESET DIFFERENTIAL, 1 HZ MAXIMUM. STABILITY ± 0.5 HZ.
2) -006, -008, -009: FACTORY SET AT 46 HZ (FD1).

F. LOW FREQUENCY

1) -004: EXTERNALLY ADJUSTABLE FROM 365 TO 385 HZ, MINIMUM. RESET DIFFERENTIAL, 6 HZ MAXIMUM. STABILITY ± 3.0 HZ.
2) -006, -008, -009: FACTORY SET AT 356 HZ (FD2).
3) -007: FACTORY SET AT 359 HZ

3.2.1.7 PHASE SEQUENCE (-004, -005, -007 ONLY)

A. A, B, C.

3.2.2 PHYSICAL

3.2.2.1 DIMENSIONAL CONFIGURATION

A. -004 AND -005 SHALL BE AS DEPICTED ON FIGURE 1.
B. -006, -008, -009 SHALL BE AS DEPICTED ON FIGURE 3.
C. -007 SHALL BE AS DEPICTED ON FIGURE 4.

3.2.2.2 WEIGHT

A.	-004, -005	40 OUNCES MAXIMUM
B.	-006, -008, -009	64 OUNCES MAXIMUM
C.	-007	16 OUNCES MAXIMUM

3.2.2.3 CONNECTOR

A. -005
    1) MUST MATE WITH M83723/75R1624N CONNECTOR.
B. -004
    1) MUST MATE WITH M83723/75R16247 CONNECTOR
C. -006, -008, -009
    1) MUST MATE WITH D38999/46WD35SN CONNECTOR.
D. -007
    1) MUST MATE WITH MS3476W20-16S CONNECTOR

3.2.2.4 PIN CONNECTIONS

A. -004, -005

PIN 1: PHASE A
PIN 2: PHASE B
PIN 3: PHASE C
PIN 4: NEUTRAL
PIN 5: K1-A1 NORMALLY OPEN
PIN 6: K1-A3 NORMALLY CLOSED
PIN 7: K1-B1 NORMALLY OPEN
PIN 8: K1-B3 NORMALLY CLOSED
PIN 9: NO CONNECTION
PIN 10: VOLTAGE OVER/UNDER FAULTS
PIN 11: FREQUENCY OVER/UNDER FAULTS
PIN 12: PHASE OVER/UNDER FAULTS
PIN 13: +28 VDC
PIN 14: -28 VDC
PIN 15: CASE GROUND
PIN 16: NO CONNECTION
PIN 17: K1-A2 COMMON
PIN 18: K1-B2 COMMON
PIN 19: NO CONNECTION
PIN 20: NO CONNECTION
PIN 21: NO CONNECTION
PIN 22: NO CONNECTION
PIN 23: NO CONNECTION
PIN 24: NO CONNECTION

B. -006, -008, -009

PIN 1: NO CONNECTION
PIN 2: NO CONNECTION
PIN 3: NO CONNECTION
PIN 4: NO CONNECTION
PIN 5: NO CONNECTION

PIN 6: NO CONNECTION
PIN 7: NO CONNECTION
PIN 8: LINE HIGH
PIN 9: LINE NEUTRAL
PIN 10: LINE LOW
PIN 11: 28 VDC
PIN 12: 28 V RETURN
PIN 13: CASE GROUND
PIN 14: VD1 - A COMMON
PIN 15: VD1 - B COMMON
PIN 16: VD1 - B NORMALLY OPEN
PIN 17: VD1- B NORMALLY CLOSED
PIN 18: VD1 - A NORMALLY OPEN
PIN 19: VD1 - A NORMALLY CLOSED
PIN 20: FD1 - A COMMON
PIN 21: FD1 - B COMMON
PIN 22: FD1 - B NORMALLY OPEN
PIN 23: FD1 - B NORMALLY CLOSED
PIN 24: FD1 - A NORMALLY OPEN
PIN 25: FD1 - A NORMALLY CLOSED
PIN 26: FD2 - A COMMON
PIN 27: FD2 - B COMMON
PIN 28: FD2 - B NORMALLY OPEN
PIN 29: FD2 - B NORMALLY CLOSED
PIN 30: FD2 - A NORMALLY OPEN
PIN 31: FD2 - A NORMALLY CLOSED
PIN 32: VD2 - A COMMON
PIN 33: VD2 - B COMMON
PIN 34: VD2 - B NORMALLY OPEN
PIN 35: VD2 - B NORMALLY CLOSED
PIN 36: VD2 - A NORMALLY OPEN
PIN 37: VD2 - A NORMALLY CLOSED

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C. -007

PIN A:	PHASE B
PIN B:	PHASE C
PIN C:	NEUTRAL
PIN D:	NO CONNECTION
PIN E:	NO CONNECTION
PIN F:	NO CONNECTION
PIN G:	K1-A1 NORMALLY OPEN
PIN H:	K1-A3 NORMALLY CLOSED
PIN J:	K1-B1 NORMALLY OPEN
PIN K:	K1-B3 NORMALLY CLOSED
PIN L:	PHASE A
PIN M:	NO CONNECTION
PIN P:	NO CONNECTION
PIN R:	K1-A2 COMMON
PIN S:	K1-B2 COMMON

3.2.3 ENVIRONMENTAL REQUIREMENTS

THE ITEM(S) SHALL FUNCTION AS SPECIFIED, WITHOUT DEGRADATION, WHEN SUBJECTED TO ANY COMBINATION OF OPERATING/NONOPERATING ENVIRONMENTS DEFINED HEREIN.

3.2.3.1 TEMPERATURE

A.	OPERATING	-004, -005, -006, -008, -009	0°C TO 71°C
		-007	-40°C TO +85°C
B.	NONOPERATING	-004, -005, -006, -008, -009	-40°C TO +85°C
		-007	-65°C TO +150°C

3.2.3.2 HUMIDITY

THE ITEM(S) SHALL WITHSTAND THE EFFECTS OF HUMIDITIES UP TO 100%, INCLUDING CONDITIONS WHEREIN CONDENSATION TAKES PLACE ON THE ITEM(S) SPECIFIED. THE ITEM(S) SHALL WITHSTAND THE ABOVE DURING OPERATING AND NONOPERATING CONDITIONS.

3.2.3.3 ALTITUDE

A.	OPERATING	-004, -005,-006, -008, -009	0 TO 6,000 FT MIN
		-007	0 TO 70,000 FT MIN
B.	NONOPERATING	-004, -005, -006, -008, -009	0 TO 40,000 FT MIN
		-007	0 TO 70,000 FT MIN

3.2.3.4 VIBRATION

A. OPERATING

NO REQUIREMENT

B. NONOPERATING

THE RESONANCE FREQUENCY OF THE ITEM(S) SHALL BE A MINIMUM OF 30 HZ. THE ITEM(S) SHALL HAVE THE CAPABILITY OF BEING TESTED IN ACCORDANCE WITH MIL-STD-810, METHOD 514, PROCEDURE X, EXCEPT THE SELECTED TEST CURVE SHALL BE AS SHOWN IN FIGURE 2. AT THE TERMINATION OF THE VIBRATION TEST, A THOROUGH VISUAL INSPECTION SHALL BE MADE TO DETECT ANY DAMAGE CAUSED BY THE TEST. A FUNCTIONAL PERFORMANCE TEST WILL BE RUN BOTH BEFORE AND AFTER THE VIBRATION TEST TO DETERMINE THAT THERE HAS BEEN NO DEGRADATION OF PERFORMANCE BELOW THE SPECIFIED LIMITS AS A RESULT OF THE VIBRATION TEST.

3.2.3.5 SHOCK

A. OPERATING

NO REQUIREMENT

B. NONOPERATING

THE ITEM(S) SHALL HAVE THE CAPABILITY OF BEING TESTED IN ACCORDANCE WITH MIL-STD-810, METHOD 516, PROCEDURE I, EXCEPT THE SHOCK PULSE SHALL BE ONE-HALF SINE WAVE, 7.0 ±0.4 G'S FOR 50 ±1 MILLISECONDS. AT THE TERMINATION OF THE SHOCK TEST, A THOROUGH VISUAL INSPECTION SHALL BE MADE TO DETECT ANY DAMAGE CAUSED BY THE TEST. A FUNCTIONAL PERFORMANCE TEST WILL BE RUN BOTH BEFORE AND AFTER THE SHOCK TEST TO DETERMINE THAT THERE HAS BEEN NO DEGRADATION OF PERFORMANCE BELOW THE SPECIFIED LIMITS AS A RESULT OF THE SHOCK TEST.

3.2.3.6 DIELECTRIC STRENGTH

A. 1000 VRMS, MINIMUM, AT 60 HZ, PINS TO CASE. ON -004 AND -005, EXCLUDE PIN 15. ON -006, -008, -009 EXCLUDE PIN 13.

3.2.3.7 INSULATION RESISTANCE

A. 100 MEGOHMS, MINIMUM, AT 500 VDC, PINS TO CASE.

3.3 DESIGN AND CONSTRUCTION

THE DETAIL DESIGN OF THE ITEM(S) SHALL BE ACCOMPLISHED BY THE MANUFACTURER, SUBJECT TO THE REQUIREMENTS HEREIN, WHICH ARE SPECIFIED ONLY TO THE EXTENT CONSIDERED NECESSARY TO OBTAIN THE DESIRED ITEM(S).

3.4 PRODUCT MARKINGS

3.4.1 ITEM IDENTIFICATION MARKING

ITEMS SHALL BE MARKED IN ACCORDANCE WITH THE TYPE I REQUIREMENTS OF MIL-STD-1285. MINIMUM MARKING SHALL BE AS FOLLOWS:

A. MANUFACTURER'S NAME, SYMBOL, OR CAGE CODE
B. MANUFACTURER'S PERMANENT PART NUMBER
C. SERIALIZATION NUMBER

3.5 DOCUMENTATION

DOCUMENTATION REQUIRED FOR SUBMITTAL SHALL BE AS SPECIFIED IN PARAGRAPH 4.

3.6 SPECIAL TESTING

THE MANUFACTURER IS RESPONSIBLE FOR SCREENING AND FINAL ADJUSTMENTS AS SPECIFIED IN PARAGRAPH 4.

3.7 INTERCHANGEABILITY

DELIVERABLE HARDWARE HAVING THE SAME PART NUMBER IDENTIFIER SHALL BE INTERCHANGEABLE FOR FORM, FIT, AND FUNCTION.

3.7.1 PRODUCT CHANGE

THE MANUFACTURER SHALL NOTIFY THE PROCURING ACTIVITY PRIOR TO THE IMPLEMENTATION OF ANY CHANGE OF THE PRODUCT WHICH MAY AFFECT PERFORMANCE, QUALITY, RELIABILITY, OR INTERCHANGEABILITY. SUCH NOTIFICATION SHALL INCLUDE A THOROUGH DESCRIPTION OF THE PROPOSED CHANGE AND A SUGGESTED TEST PLAN DESIGNED TO DEMONSTRATE THAT THE CHANGE WILL NOT ADVERSELY AFFECT THE SPECIFIED REQUIREMENTS FOR PERFORMANCE, QUALITY, RELIABILITY, OR INTERCHANGEABILITY. THE PROCURING ACTIVITY WILL APPROVE OR DISAPPROVE THE CHANGE AND NOTIFY THE MANUFACTURER. AT THE MANUFACTURER'S OPTION, ITEMS INCORPORATING THE CHANGE MAY BE MANUFACTURED AND TESTED PRIOR TO APPROVAL; HOWEVER, APPROVAL FROM THE PROCURING ACTIVITY MUST BE RECEIVED PRIOR TO SHIPMENT.

3.8 RELIABILITY

THE MTBF OF THE ITEM(S) SHALL BE NOT LESS THAN 1×10^5 HOURS WHEN OPERATING UNDER THE FOLLOWING CONDITIONS.

A.	TEMPERATURE	30°C
B.	HUMIDITY	60%

3.8.1 REMOVED

3.8.1.1 REMOVED

3.9 WORKMANSHIP

THE ITEMS SHALL BE MANUFACTURED AND PROCESSED IN SUCH A MANNER AS TO BE UNIFORM IN QUALITY, AND EXTERNAL SURFACES SHALL BE FREE FROM TOOL MARKS, BURNS, DEEP SCRATCHES, AND ANY OTHER DEFECTS THAT WILL AFFECT LIFE, SERVICEABILITY, OR APPEARANCE.

3.10 SAFETY

ENGINEERING AND DESIGN CRITERIA SHALL CONFORM TO BEST COMMERCIAL STANDARDS FOR EQUIPMENT OF THIS CATEGORY AND SHALL NOT PRESENT ANY SIGNIFICANT HAZARDS TO PERSONNEL DURING NORMAL OPERATION OR MAINTENANCE.

4. QUALITY ASSURANCE PROVISIONS

4.1 TESTING

NO PROVISIONS OR PORTIONS OF THIS DOCUMENT, EXCEPT AS SPECIFIED IN PARAGRAPH 3.6, SHALL BE CONSTRUED TO REQUIRE THE SUPPLIER TO MAKE ANY PRODUCTION OR PRESHIPMENT TESTS OTHER THAN THOSE NORMALLY PERFORMED DURING MANUFACTURE AND PACKAGING OF THE ITEM(S) DESCRIBED HEREIN. UNITS SUBMITTED OR SUPPLIED IN ACCORDANCE WITH THIS DOCUMENT SHALL BE CAPABLE OF MEETING OR PASSING ANY AND ALL REQUIREMENTS SPECIFIED HEREIN. THE PROCURING ACTIVITY RESERVES THE RIGHT TO PERFORM INSPECTIONS TO ASSURE THAT SUPPLIES AND SERVICES CONFORM TO THE PRESCRIBED REQUIREMENTS.

4.2 DOCUMENTATION SUBMITTAL

SUPPLIER SHALL SUBMIT DOCUMENTATION AS SPECIFIED IN PARAGRAPH 4.2.1 AND AS STATED IN THE REQUEST FOR QUOTES.

4.2.1 REMOVED

4.3 SCREENING/BURN-IN/TESTING

4.3.1 SCREENING/BURN-IN/TESTING

EACH ITEM DELIVERED SHALL BE SUBJECTED TO A BURN-IN OF 96 HOURS, MINIMUM, UNDER THE FOLLOWING CONDITIONS:

A. T_A = 70°, ±1°C

B. SENSING POWER APPLIED FOR -004, -005, AND -007 SHALL BE 115, ±10 VRMS, THREE-PHASE . FOR -006,-008, -009 USE SENSING POWER OF 220 ±10 VRMS AT 50/60/400 HZ

C. 28 VDC, APPLIED (-004, -005, -006, -008, -009)

D.
1) 12 HOURS, MIN, AT 70°C, MIN
2) 24 HOURS, MIN, AT T_A = 23°, ±10°C
3) 12 HOURS, MIN, AT 70°C, MIN
4) 24 HOURS, MIN, AT T_A +23°, ±10°C
5) X HOURS, AT T_A = 23°, ±10°C AND/OR 70°C, MIN

TOTAL HOURS SHALL = 96 HOURS, MIN

DURING BURN-IN, THE ITEMS SHALL BE MONITORED TO ASSURE NO FAILURES OCCUR. IF A FAILURE IS OBSERVED DURING BURN-IN, THE ITEM SHALL BE REMOVED, THE FAILURE MODE ESTABLISHED, GDED SHALL BE NOTIFIED OF THE FAILURE AND OF THE CORRECTIVE ACTION TAKEN. THE FAILED ITEM AFTER REPAIRS, MAY BE RETURNED TO BURN-IN FOR THE REPAIRED ITEM, TIME EQUALS ZERO HOURS. ANY ONE ITEM MAY BE REPAIRED A MAXIMUM OF THREE (3) TIMES.

4.3.1.1 FUNCTIONAL TESTING, T_A = 25°, ±5°C

EACH ITEM UPON COMPLETING BURN-IN SHALL BE SUBJECTED TO A FUNCTIONAL TEST THAT SHALL SATISFY THE REQUIREMENTS SPECIFIED IN PARAGRAPH 3.2.1 AND SUBPARAGRAPHS THERETO.

4.3.1.2 ADJUSTMENTS

EACH ITEM, PRIOR TO SHIPMENT, SHALL HAVE THE FOLLOWING ADJUSTMENTS MADE. THE POTENTIOMETERS THAT CONTROL THESE ADJUSTMENTS SHALL BE SEALED, AFTER FINAL ADJUSTMENT, IN SUCH A MANNER THAT IF A POTENTIOMETER SETTING HAS BEEN CHANGED FROM THE FACTORY SETTING, SAID CHANGE SHALL BE CLEARLY VISIBLE.

A. VOLTAGE, ±.5V, 50 AND 60 HZ
   1) HIGH
      -005: 127.0 VRMS (HI-V)
      -006, -008, -009: 266.0 VRMS L-L (VD1) AND 133.0 VRMS L-N (VD2)
   2) LOW
      -005: 107.0 VRMS (LO-V)
      -006, -008, -009: 179.0 VRMS L-L (VD1) AND 107.0 L-N VRMS (VD2)

B. FREQUENCY, ±.5 HZ, 50 AND 60 HZ
   1) HIGH
      -005: 67 HZ (HI-F)
      -006, -008, -009: 67 HZ (FD1)

   2) LOW
      -005: 46 HZ (LO-F)
      -006, -008, -009: 46 HZ (FD1)

C. VOLTAGE, ±.5V, 400 HZ
   1) HIGH
      -004: 125.0 VRMS (HI-V)
      -006, -008, -009: 266.0 VRMS L-L (VD1) AND 133.0 L-N VRMS (VD2)
      -007: 127.0 VRMS

2) LOW

-004: 103.0 VRMS (LO-V)

-006, -008, -009: 179.0 VRMS L-L (VD1) AND 107.0 L-N VRMS (VD2)

-007: 103.0 VRMS

D. FREQUENCY,±1 HZ, 400 HZ

1) HIGH

-004: 421.0 HZ (HI-F)

-006, -008, -009: 443.0 HZ (FD2)

-007: 441.0 HZ

2) LOW

-004: 379.0 HZ (LO-F)

-006, -008,-009: 357.0 HZ (FD2)

-007: 359.0 HZ

E. TIME DELAY, ±.2 SECONDS

1) -004, -005, -007: 2 SECONDS (ON & OFF).

2) -006: 1.5 SECONDS, MINIMUM, 2.5 SECONDS, MAXIMUM ON. 250 MILLISECONDS OFF.

3) -008: 1.5 SECONDS, MINIMUM, 2.5 SECONDS, MAXIMUM ON. 150 MILLISECONDS TO 250 MILLISECONDS OFF FOR VD1 AND VD2. 250 MILLISECONDS, MAXIMUM OFF FOR FD1 AND FD2.

4) -009: 1.5 SECONDS, MINIMUM, 2.5 SECONDS, MAXIMUM ON. 150 MILLISECONDS TO 250 MILLISECONDS OFF FOR VD1, VD2, FD1 AND FD2.

F. REMOVED

5. PREPARATION FOR DELIVERY

5.1 INSPECTION

ITEMS SUPPLIED UNDER THIS DOCUMENT SHALL BE EXAMINED TO VERIFY CORRECTNESS OF PRODUCT IDENTIFICATION AND TO ALLOW A FINAL CHECK FOR EVIDENCE OF DAMAGE OR VIOLATION OF EXTERNAL COSMETICS JUST PRIOR TO SHIPMENT PACKAGING. ITEMS WITH DEFECTS SHALL NOT BE SUPPLIED.

5.2 UNIT PACKAGE

THE UNIT PACKAGE IS THE PRIMARY PROTECTION PACKAGE FOR THE ITEM. THE ITEM SHALL BE HELD INDIVIDUALLY BY THIS PACKAGE.

5.2.1 UNIT PACKAGE MARKING

THE UNIT PACKAGE SHALL BE MARKED WITH INFORMATION TO COMPLETE THE FOLLOWING:

A. SUPPLIER'S NAME, SYMBOL, OR CAGE CODE.
B. SUPPLIER'S IDENTIFYING NUMBER
C. THE PROCURING ACTIVITIES CONTROL NUMBER AND APPLICABLE DASH NUMBER.

5.3 SHIPPING CONTAINER

THE UNIT PACKAGE(S) SHALL BE SURROUNDED BY A CONTAINER THAT WILL ENSURE ACCEPTANCE BY COMMON CARRIER, EITHER SURFACE OR AIR, AND YET AFFORD SUFFICIENT PROTECTION FROM DAMAGE DURING ALL PHASES OF SHIPMENT.

5.3.1 SHIPPING CONTAINER MARKING

THE SHIPPING CARTON OR CONTAINER SHALL BE MARKED WITH INFORMATION TO COMPLETE THE FOLLOWING:

A. CONSIGNEE'S NAME AND ADDRESS
B. CONSIGNEE'S IN-HOUSE DELIVERY POINT
C. PURCHASE ORDER NUMBER
D. CONSIGNOR'S NAME AND ADDRESS

NOTES

A. ORDERING DATA
THE PURCHASE ORDER OR CONTRACT SHALL SPECIFY THE FOLLOWING:
1. THIS DOCUMENT NUMBER, APPROPRIATE DASH NUMBERS AND REVISION LETTER.

B. PART NUMBER
ITEM(S) SUPPLIED UNDER THIS DOCUMENT SHALL BE IDENTIFIED BY THE SUPPLIER WITH A PERMANENT PART NUMBER THAT REFLECTS THE PROCURING ACTIVITIES REQUIREMENTS, AS SPECIFIED HEREIN.

C. REMOVED

SIZE **A**	CAGE CODE **12436**	DRAWING NO.	6010663
SCALE NONE		REV G	SHEET 23

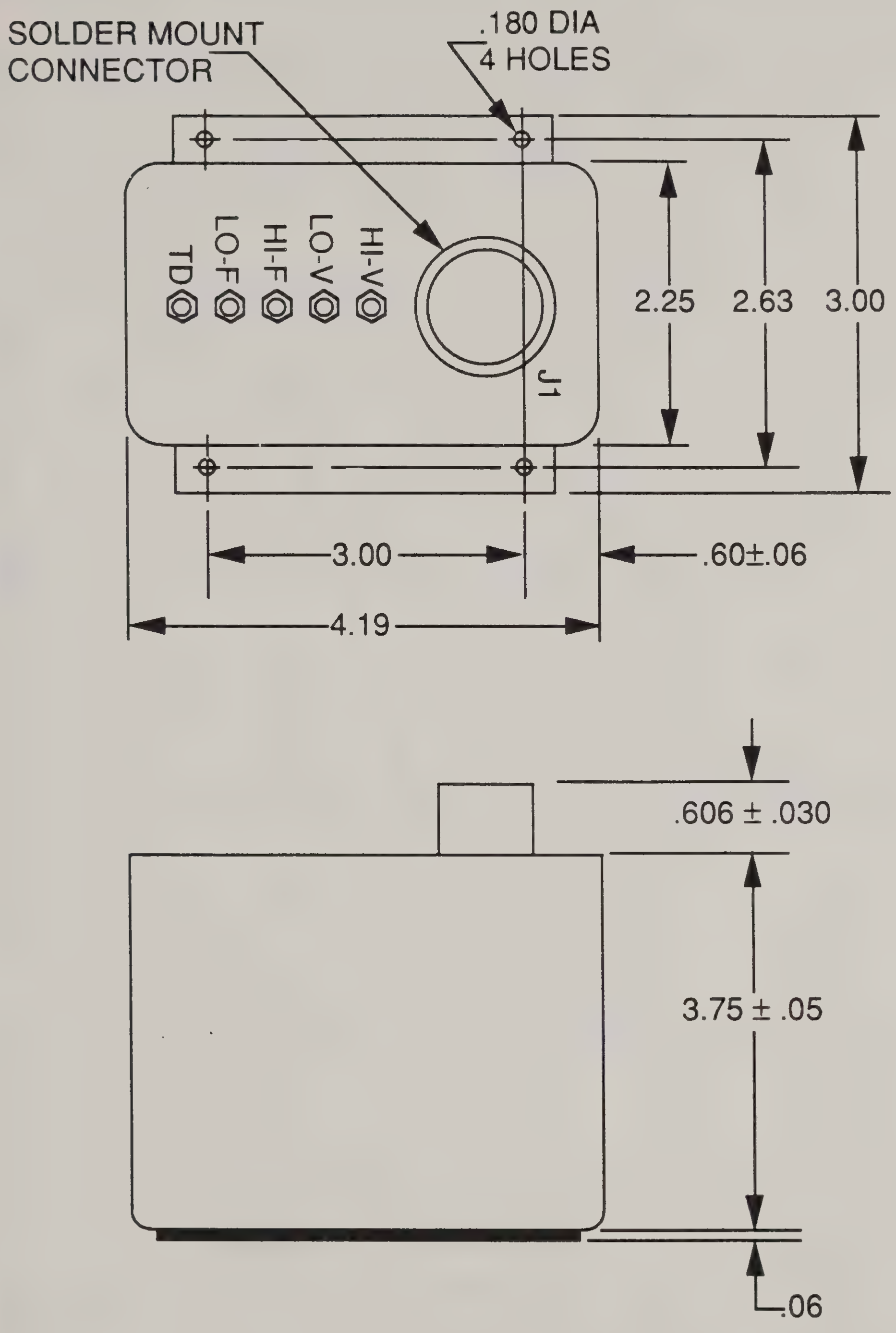
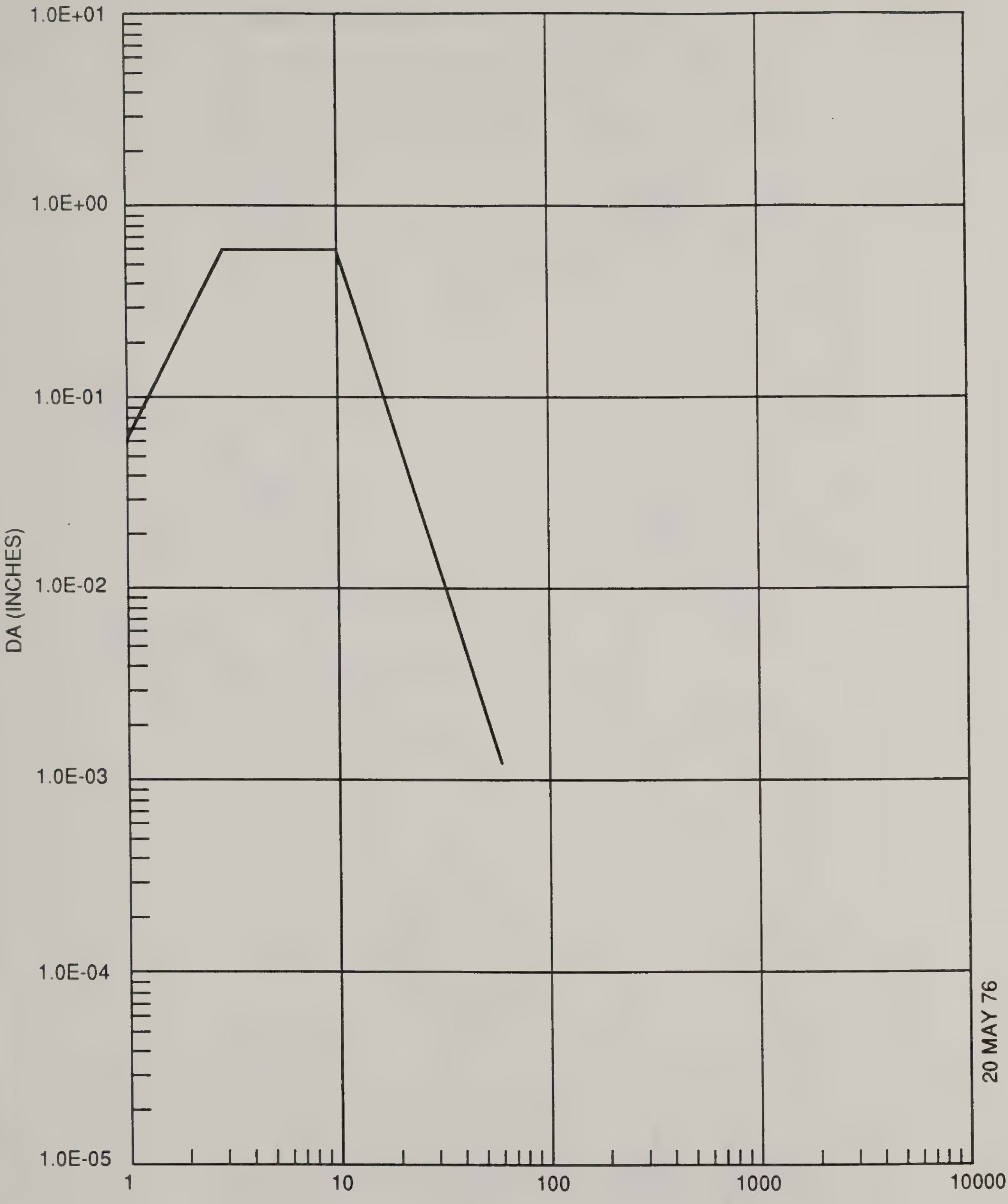


FIGURE 1 (-004, -005)

SIZE A	CAGE CODE 12436	DRAWING NO. 6010663	
SCALE NONE	REV G	SHEET 24	



FREQUENCY (HZ)

20 MAY 76

FIGURE 2
VIBRATION CURVE

SIZE **A**	CAGE CODE **12436**	DRAWING NO. 6010663
SCALE NONE	REV G	SHEET 25

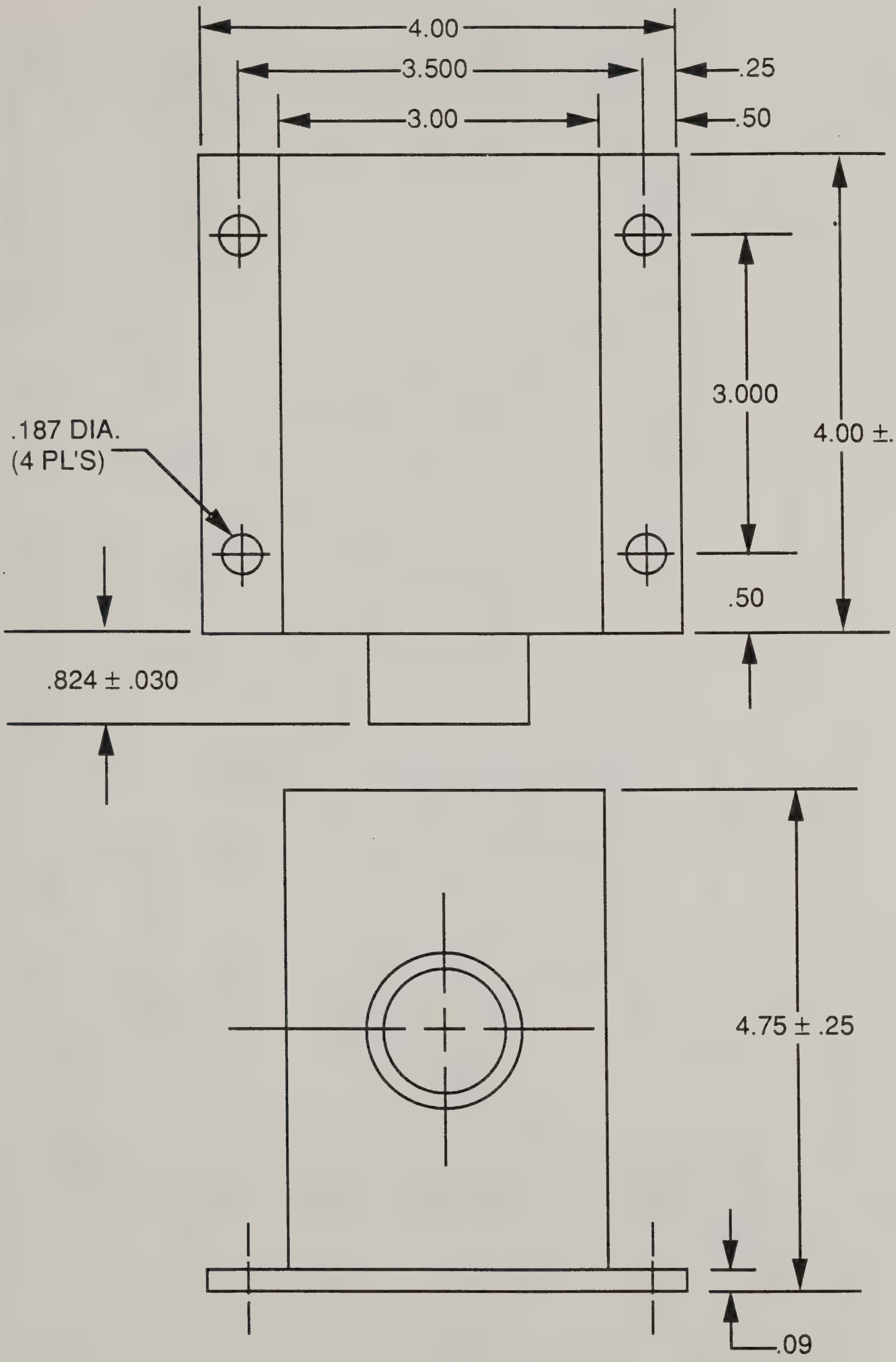


FIGURE 3 (-006, -008, -009)

SIZE	CAGE CODE	DRAWING NO.	
A	12436	6010663	
SCALE NONE		REV G	SHEET 26

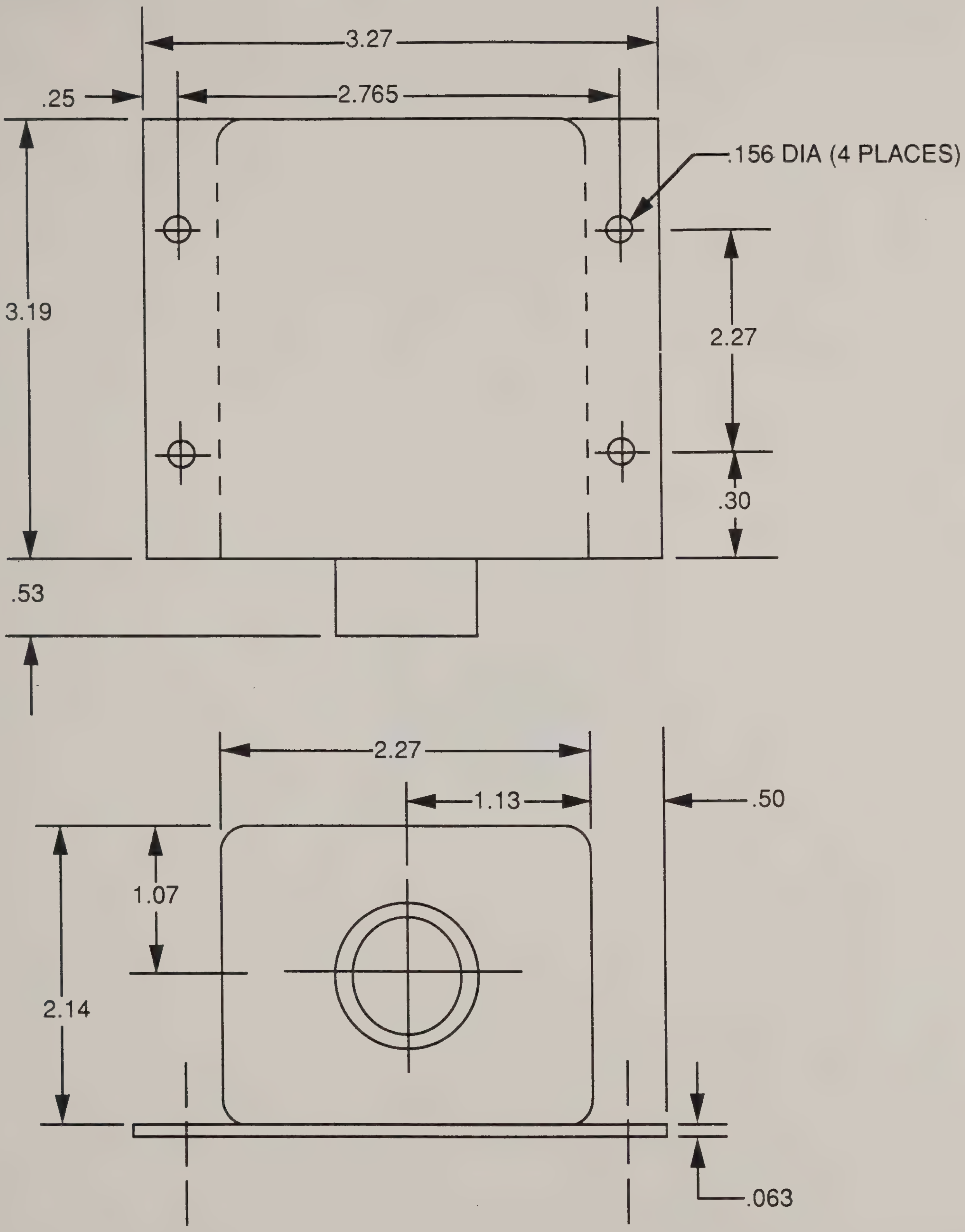


FIGURE 4 (-007)

SIZE **A**	CAGE CODE **12436**	DRAWING NO.	6010663
SCALE NONE		REV G	SHEET 27

IAIS/AIS/B-1B/FSX/ASE

CCB 7/7/92

GENERAL DYNAMICS *ELECTRONICS DIVISION* SAN DIEGO, CA	FSCM 12436	CONTRACT NO F33657-88-C-0037	CONTR CODE RLF	SER NO D 04557	DRAWING NO 6010663	
CHANGE NOTICE SHEET 1 OF 4	DCN ☒ ECN ☐	LIAISON ☐	PL ONLY ☐ TO BE INC ☐	CHG CODE E4	INTERPRETATION PER 1000027	REV LTR DWG H PL

CONFIGURATION ITEM	EFFECTIVITY	TC	DWG TITLE: POWER MONITOR, LINE
1 RECORD CHANGE			

REASON FOR CHG: CORRECT TRIP POINT AND SCREENING VALUES PER VENDOR DATA.

SD-STOCK DISPOSITION	TC-TRANSACTION CODE	IND-INDICATOR
1-UNAFFECTED 3-DISPOSE 5-USE 2-REWORK 4-STOCK 6-HOLD	C-CREATE R-REVISE A-ADD D-DECREASE L-LIMIT	A-ALTERNATE P-MAKE FROM S-SUBSTITUTE V-VERSION

DRAWING SHEET STATUS	SIZE	SH	REV	SH	REV	SH	REV	SH	REV	SH	REV	SH	REV	SH	REV	SH	REV	SH	REV	SH	REV	SH	REV	SH	REV	SH	REV	SH	REV	SH	REV	SH	REV

TC	CI	IND	ITEM NO	PART NUMBER	QTY PER ASSY	ASSY DASH	REFERENCE DESIGNATORS	FSCM	MATERIAL SPEC	NOMENCLATURE	PART TYPE	NOTE	SD

SEE SHEET 2 AND ON FOR CHANGES.

TC	CI	IND		PART NUMBER	NEXT ASSY QTY REQD	END ART QTY REQD	SAME AS	QTY REPLACED	DASH REPLACED	OLD NEXT ASSEMBLY DRAWING OR DASH NO	NEW NEXT ASSEMBLY DRAWING OR DASH NO	NOMENCLATURE	PART TYPE	NOTE	SD

7/10/92

REMARKS Parts Conform to these adjustments PWR/CONT UNIT	CLASS II	PREP BY N. Trissel 92-06-25	CHECK D. [illegible] 92/06/26	APPROVAL 7/7/92
		ENGR [illegible] 92/06/26	SECT HD [illegible] 92-06-26	S.R. Kligh
		7/7/92	CM V. Schwoerb 92 07 07	RELEASE DATE 92-07-10

APPD ☒ TBL ☐ REJ ☐

V.S.

5-632, 02/88

GENERAL DYNAMICS ELECTRONICS DIVISION SAN DIEGO, CA	FSCM 12436	SHEET 2	SER NO D 04557	DRAWING NO 6010663

DRAWING SHEET STATUS	SH	REV	SH	REV	SH	REV	SH	REV	SH	REV	SH	REV	SH	REV	SH	REV	SH	REV	SH	REV	SH	REV	SH	REV	SH	REV	SH	REV	SH	REV	SH	REV

TC	CI	IND	ITEM NO	PART NUMBER	QTY PER ASSY	ASSY DASH	REFERENCE DESIGNATORS	FSCM	MATERIAL SPEC	NOMENCLATURE	PART TYPE	NOTE	SD

SHEET 7, SECTION 3.2.1.4 RELAY CONTACTS, ADD THE FOLLOWING:

F. FOR THE -006, -008, AND -009: EACH RELAY CONTACT SHALL NOT EXCEED 0.15 OHMS CONTACT RESISTANCE AT 2 AMPS DC.

SHEET 8, SECTION 3.2.1.6 TRIP POINT RANGE, SUBSECTION A., NUMBER 2) -006, -008, -009, CHANGE

FROM: FACTORY SET AT 266 VAC L-L (VD1) AND 133 VAC L-N (VD2).
TO: FACTORY SET AT 268 VAC L-L (VD1) AND 156 VAC L-N (VD2).

SHEET 9, SECTION 3.2.1.6 TRIP POINT RANGE, SUBSECTION B., NUMBER 2) -006, -008, -009, CHANGE

FROM: FACTORY SET AT 179 VAC L-L (VD1) AND 107 VAC L-N (VD2).
TO: FACTORY SET AT 177 VAC L-L (VD1).

SHEET 19, SECTION 4.3.1 SCREENING/BURN-IN/TESTING, CHANGE THE PUNCTUATION IN THE LAST PARAGRAPH

FROM: ... THE FAILED ITEM AFTER REPAIRS, MAY BE RETURNED TO BURN-IN FOR THE REPAIRED ITEM, TIME EQUALS ZERO HOURS.
TO: ... THE FAILED ITEM AFTER REPAIRS MAY BE RETURNED TO BURN-IN. FOR THE REPAIRED ITEM, TIME EQUALS ZERO HOURS.

SHEET 20, SECTION 4.3.1.2 ADJUSTMENTS, SUBSECTION A, CHANGE THE TITLE OF THIS

FROM: VOLTAGE, ±.5V, 50 AND 60 HZ
TO: VOLTAGE, ±0.5% (VD1), ±1.0% (VD2), 50 AND 60 HZ (-006, -008, -009)
±.5V, 50 AND 60 HZ (-005)

TC	CI	IND		PART NUMBER	NEXT ASSY	END ART	SAME AS	QTY	DASH	OLD NEXT ASSEMBLY DRAWING OR DASH NO	NEW NEXT ASSEMBLY DRAWING OR DASH NO	NOMENCLATURE	PART TYPE	NOTE	SD
					QTY REQD			REPLACED							

GENERAL DYNAMICS ELECTRONICS DIVISION SAN DIEGO, CA	FSCM 12436	SHEET 3	SER NO D 04557	DRAWING NO 6010663

DRAWING SHEET STATUS	SH	REV	SH	REV	SH	REV	SH	REV	SH	REV	SH	REV	SH	REV	SH	REV	SH	REV	SH	REV	SH	REV	SH	REV	SH	REV	SH	REV	SH	REV	SH	REV

TC	CI	IND	ITEM NO	PART NUMBER	QTY PER ASSY	ASSY DASH	REFERENCE DESIGNATORS	FSCM	MATERIAL SPEC	NOMENCLATURE	PART TYPE	NOTE	SD

SHEET 20, SECTION 4.3.1.2 ADJUSTMENTS, SUBSECTION A, NUMBER 1) HIGH, FOR -006, -008, -009, CHANGE
FROM: 266.0 VRMS L-L (VD1) AND 133.0 VRMS L-N (VD2).
TO: 268.0 VRMS L-L (VD1) AND 156.0 VRMS L-N (VD2).

SHEET 20, SECTION 4.3.1.2 ADJUSTMENTS, SUBSECTION A, NUMBER 2) LOW, FOR -006, -008, -009, CHANGE
FROM: 179.0 VRMS L-L (VD1) AND 107.0 L-N VRMS (VD2).
TO: 177.0 VRMS L-L (VD1)

SHEET 20, SECTION 4.3.1.2 ADJUSTMENTS, SUBSECTION C, CHANGE THE TITLE OF THIS
FROM: VOLTAGE, ±.5V, 400 HZ
TO: VOLTAGE, ±0.5% (VD1), ±1.0% (VD2), 400 HZ (-006, -008, -009)
±.5V, 400 HZ (-004, -007)

SHEET 20, SECTION 4.3.1.2 ADJUSTMENTS, SUBSECTION C, NUMBER 1) HIGH, FOR -006, -008, -009, CHANGE
FROM: 266.0 VRMS L-L (VD1) AND 133.0 L-N VRMS (VD2)
TO: 268.0 VRMS L-L (VD1) AND 156.0 L-N VRMS (VD2)

SHEET 21, SECTION 4.3.1.2 ADJUSTMENTS, SUBSECTION C, NUMBER 2) LOW, FOR -006, -008, -009, CHANGE
FROM: 179.0 VRMS L-L (VD1) AND 107.0 L-N VRMS (VD2)
TO: 177.0 VRMS L-L (VD1)

SHEET 21, SECTION 4.3.1.2 ADJUSTMENTS, SUBSECTION D, NUMBER 1) HIGH, FOR -006, -008, -009, CHANGE
FROM: 443.0 HZ (FD2)
TO: 444.0 HZ (FD2)

TC	CI	IND		PART NUMBER	NEXT ASSY	END ART	SAME AS	QTY	DASH	OLD NEXT ASSEMBLY DRAWING OR DASH NO	NEW NEXT ASSEMBLY DRAWING OR DASH NO	NOMENCLATURE	PART TYPE	NOTE	SD
					QTY REQD			REPLACED							

GENERAL DYNAMICS ELECTRONICS DIVISION SAN DIEGO, CA	FSCM 12436	SHEET 4	SER NO D 04557	DRAWING NO 6010663

DRAWING SHEET STATUS	SH	REV	SH	REV	SH	REV	SH	REV	SH	REV	SH	REV	SH	REV	SH	REV	SH	REV	SH	REV	SH	REV	SH	REV	SH	REV	SH	REV	SH	REV	SH	REV

TC	CI	IND	ITEM NO	PART NUMBER	QTY PER ASSY	ASSY DASH	REFERENCE DESIGNATORS	FSCM	MATERIAL SPEC	NOMENCLATURE	PART TYPE	NOTE	SD

SHEET 21, SECTION 4.3.1.2 ADJUSTMENTS, SUBSECTION D, NUMBER 2) LOW, FOR -006, -008, -009, CHANGE
FROM: 357.0 HZ (FD2)
TO: 356.0 HZ (FD2)

SHEET 21, SECTION 4.3.1.2 ADJUSTMENTS, SUBSECTION E, CHANGE THE TITLE OF THIS
FROM: TIME DELAY, ±.2 SECONDS
TO: TIME DELAY

SHEET 21, SECTION 4.3.1.2 ADJUSTMENTS, SUBSECTION E, NUMBER 1) -004, -005, -007, CHANGE
FROM: 2 SECONDS (ON & OFF)
TO: 2 SECONDS (±0.2 SECONDS) (ON & OFF)

SHEET 21, ADD THE FOLLOWING SECTION:

4.3.1.3 CONTACTS (-006, -008, -009)
EACH RELAY CONTACT SHALL BE TESTED FOR A MAXIMUM OF 0.15 OHMS AT 2 AMPS DC.

TC	CI	IND		PART NUMBER	NEXT ASSY	END ART	SAME AS	QTY	DASH	OLD NEXT ASSEMBLY DRAWING OR DASH NO	NEW NEXT ASSEMBLY DRAWING OR DASH NO	NOMENCLATURE	PART TYPE	NOTE	SD
					QTY REQD			REPLACED							

APPLICATION	
UNLESS OTHERWISE SPECIFIED SEE SEPARATE APPLICATION LIST	
NEXT ASSY	USED ON
2113120	MOD 345
2216121	

REVISIONS

LTR	DESCRIPTION	DATE	APPROVED
H	SEE SHEET 2		

SPECIFICATION CONTROL DRAWING

REV	H	H	G	G	G	G	G	G
SHEET	20	21	22	23	24	25	26	27

REV STATUS OF SHEETS																			
REV	H	H	G	G	G	G	H	H	H	G	G	G	G	G	G	G	G	G	H
SHEET	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES

DECIMAL TOLERANCES:

. XX	. XXX	ANGLE
± .03	± .010	± 2 °

RELEASE DATE 29 MAR '77 REL 1

CONTRACT NO. F33657-75-C-0310

DRAWN	G.WILLIAMS	11 MAR 77
CHECKED	R.T. GUMMINGS	28 MAR 77
ENGINEER	F.MACHADO	3/17/77
DESIGN ACTIVITY APPROVAL	B.G.MERTIES	3/19/77

GENERAL DYNAMICS
Electronics Division San Diego, CA

POWER MONITOR, LINE

SIZE	CAGE CODE	DRAWING NO.
A	12436	6010663

SCALE NONE

SHEET 1 OF 27

REVISIONS

LTR	DESCRIPTION	DATE	APPROVED
F	REPLACES REV E WITH CHANGE. SEE CN D09937 G.T 91/19/07	92-02-05	Victor T. Ang 91/07/30 V.S.
G	REVISED PER CN D 02124. NHT 92/05/22	92-05-27 5/29/92 92-05-29	Q. Fantin V.S.
H	REVISED PER CN D 04557. NHT 92-06-25	92/06/25 7/7/92 92-07-10	V.S.

SIZE	CAGE CODE	DRAWING NO.	
A	12436	6010663	
SCALE NONE	REV H		SHEET 2

SUGGESTED SOURCE(S) OF SUPPLY

CONTROL NO.	CAGE CODE	VENDOR PART NO.	VENDOR
6010663-001 3/4/	13979	101526	PARKO ELECTRONICS CO., INC.
6010663-002 3/4/	13979	101529	16722 MILLIKEN AVENUE
6010663-003 4/			IRVINE, CA 92664
6010663-004 3/	13979	101550	
6010663-005 3/	13979	101665	
6010663-006 3/	13979	101900	
6010663-008 3/	13979	101903	
6010663-009 3/	13979	101905	
6010663-001 3/4/	15420	2/	LOGITEK, INC.
6010663-002 3/4/	15420	2/	1010 CHRISTOPHER ST
6010663-003 4/			RONKONKOMA NY
6010663-004 3/	15420	100-096	11770-6922
6010663-005 3/	15420	100-097-1	
6010663-006 3/	15420	100-525	
6010663-007 3/	15420	100-526	

NOTES:

1 PREPARED IN ACCORDANCE TO MIL-STD-100A.

2/ TO BE ADDED LATER.

3/ -001 AND -002 SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S DATA SHEET, -004, -005, -006, -007, -008 AND -009 SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS SPECIFIED HEREIN.

4/ NOT FOR PROCUREMENT.

SIZE A	CAGE CODE 12436	DRAWING NO.	6010663
SCALE	NONE	REV G	SHEET 3

1. SCOPE

THIS DOCUMENT DEFINES THE REQUIREMENTS FOR AC POWER LINE MONITORS, 60 AND 400 HZ.

2. APPLICABLE DOCUMENTS

2.1 GOVERNMENT DOCUMENTS

DOCUMENTS ARE APPLICABLE TO THIS SPECIFICATION TO THE EXTENT SPECIFIED IN SECTION 3 OR 4. DOCUMENTS REFERENCED WITHIN THE DOCUMENTS CITED HEREIN SHALL NOT BE APPLICABLE TO THIS SPECIFICATION BECAUSE OF SUCH REFERENCE.

SPECIFICATIONS

MILITARY

MIL-C-83723	CONNECTOR, ELECTRICAL CIRCULAR, ENVIRONMENT RESISTING, RECEPTACLES AND PLUGS, GENERAL SPECIFICATION FOR
MIL-C-38999	CONNECTOR, ELECTRICAL CIRCULAR, MINIATURE, HIGH DENSITY QUICK DISCONNECT (BAYONET, THREADED AND BREECH COUPLING), ENVIRONMENT RESISTANT, REMOVABLE CRIMP AND HERMETIC SOLDER CONTACTS, GENERAL SPECIFICATION FOR

STANDARDS

MIL-STD-107	PREPARATION AND HANDLING OF INDUSTRIAL PLANT EQUIPMENT AND STORAGE

MIL-STD-1285	MARKING OF ELECTRICAL AND ELECTRONIC PARTS
MIL-STD-810	ENVIRONMENTAL TEST METHODS AND ENGINEERING GUIDELINES
MS3476	CONNECTORS, PLUG, ELECTRIC, SERIES 2, CRIMP TYPE, BAYONET COUPLING, CLASSES A, L, S, AND W

2.2 PRECEDENCE

THE ORDER OF PRECEDENCE IS:

A. THIS SPECIFICATION
B. MILITARY SPECIFICATIONS
C. MILITARY STANDARDS

3. REQUIREMENTS

3.1 GENERAL

3.1.1 -004 , -005, AND -007

THESE ITEMS MONITOR POWER SOURCE VOLTAGE, FREQUENCY, AND PHASE ROTATION. THREE TTL OUTPUTS ARE GENERATED ON THE -004 AND -005 AND TWO RELAY CONTACTS ARE CLOSED UPON THE MONITOR SENSING CONFORMANCE WITH ESTABLISHED ELECTRICAL PARAMETERS. THE TTL OUTPUTS ON THE -004 AND -005 REFLECT THE STATUS OF INDIVIDUAL PARAMETERS IN NEAR REAL TIME. RELAY DROP OUT, INITIATED BY A DISCREPANCY IN ANY ONE PARAMETER, MAY BE DELAYED UP TO 2.5 SECONDS. INTEGRAL ELECTRICAL ISOLATION IS PROVIDED BETWEEN AC POWER LINE SENSORY CIRCUITS AND THE DC POWER INPUT, TTL AND RELAY CIRCUITS.

3.1.2 -006, -008 AND -009

THESE ITEM(S) MONITOR POWER SOURCE VOLTAGE AND FREQUENCY AND PROVIDE TWO PAIRS OF RELAY CONTACTS WHICH ARE CLOSED UPON THE MONITOR SENSING CONFORMANCE WITH THE ESTABLISHED ELECTRICAL PARAMETERS. THE AC AND DC INPUTS SHALL BE ISOLATED FROM EACH OTHER AND CASE GROUND.

3.2 CHARACTERISTICS

3.2.1 ELECTRICAL

3.2.1.1 DC INPUT POWER, RANGE

A. -004, -005: 20 TO 32 VOLTS, 100 MILLIAMPERES, MAXIMUM
B. -006, -008, -009: 20 TO 32 VOLTS, 250 MILLIAMPERES, MAXIMUM
C. -007: NOT APPLICABLE

3.2.1.2 SENSING VOLTAGE, RMS

THE SENSING VOLTAGE, RMS, SHALL BE MEASURED PHASE TO NEUTRAL IN A 3 PHASE, 4 WIRE, WYE CONNECTED SYSTEM.

A. -005: 45 TO 74 HZ, 90 TO 145 VRMS
B. -004: 365 TO 430 HZ, 90 TO 145 VRMS
C. -007: 360 TO 440 HZ, 104 TO 126 VRMS

THE INPUT IMPEDANCE, PHASE TO NEUTRAL, SHALL BE NOT LESS THAN 1K OHMS.

3.2.1.2.1 VOLTAGE TRANSIENTS (-006, -008, -009)

THE ITEM SHALL BE CAPABLE OF WITHSTANDING VOLTAGE TRANSIENTS IN ACCORDANCE WITH MIL-STD-107.

3.2.1.3 OPERATION

A. THE INTERNAL RELAY SHALL BE ENERGIZED, WITHIN A DELAY OF 100 MILLISECONDS MAXIMUM AFTER THE APPLICATION OF DC. -006, -008, -009 RELAY PICKUP WILL OCCUR BETWEEN 1.5 AND 2.5 SECONDS.

B. THE FAULT OUTPUT SHALL BE A RELAY ENERGIZED WITH NOMINAL VOLTAGE, FREQUENCY, AND PHASE ROTATION (WHEN REQUIRED) POWER APPLIED TO THE UNIT. WHEN A FAULT IS DETECTED, THE RELAY SHALL CHANGE STATE.

3.2.1.4 RELAY CONTACTS

A. DPDT, 2 AMPERES RESISTIVE, 1 AMPERE INDUCTIVE AT 28 VDC MIN.
B. THE TIME DELAY ON DROPOUT SHALL BE EXTERNALLY ADJUSTABLE FOR THE -004 AND -005 FROM 0.25 SECONDS TO 2.5 SECONDS.
C. THE -006 DROPOUT TIME SHALL NOT EXCEED 250 MILLISECONDS.
D. THE -008 DROPOUT TIME DELAY SHALL BE BETWEEN 150 MILLISECONDS AND 250 MILLISECONDS FOR VD1 AND VD2, AND SHALL NOT EXCEED 250 MILLISECONDS FOR FD1 AND FD2.
E. THE -009 DROPOUT TIME DELAY SHALL BE BETWEEN 150 MILLISECONDS AND 250 MILLISECONDS FOR VD1, VD2, FD1 AND FD2.
F. FOR THE -006, -008, AND -009:
EACH RELAY CONTACT SHALL NOT EXCEED 0.15 OHMS CONTACT RESISTANCE AT 2 AMPS DC.

3.2.1.5 FAULT OUTPUTS (-004 AND -005 ONLY)

FAULT OUTPUTS FOR VOLTAGE, FREQUENCY, AND PHASE ROTATION SHALL BE PROVIDED AND SHALL CONFORM TO THE FOLLOWING:

A. TTL COMPATIBLE
  1) SOURCE CURRENT SHALL BE 1 MILLIAMPERE MINIMUM AT 3.5 ± 1 VDC, FOR A NO FAULT CONDITION.
  2) SINK CURRENT SHALL BE 10 MILLIAMPERES MINIMUM AT 0.5 VDC MAXIMUM, FOR A FAULT CONDITION.

B. THE RESPONSE TIME WITH A 10 % OVER TRIP SIGNAL SHALL NOT EXCEED THE FOLLOWING:

1)	-005	150 MILLISECONDS
2)	-004	30 MILLISECONDS

3.2.1.6 TRIP POINT RANGE

THE VOLTAGE TRIP POINT ADJUSTMENTS FOR THE -004 AND -005 INCOMING LINE VOLTAGE SHALL BE MADE ONE PHASE AT A TIME, I.E.; TWO PHASES MAINTAINED AT NOMINAL WITH THE REMAINING PHASE VARIED INDEPENDENTLY. THE VOLTAGE TRIP POINT FOR THE -006, -007, -008 AND -009 ARE FACTORY SET AND FIXED.

A. HIGH VOLTAGE

1)	-004, -005:	EXTERNALLY ADJUSTABLE FROM 115 TO 145 VAC, MINIMUM, SINGLE PHASE TO NEUTRAL, RESET DIFFERENTIAL 2 VAC, MAXIMUM, WITH A STABILITY OF ±1 VAC.
2)	-006, -008, -009:	FACTORY SET AT 268 VAC L-L (VD1) AND 156 VAC L-N (VD2).
3)	-007:	FACTORY SET AT 127 VAC.

B. LOW VOLTAGE

1) -004, -005: EXTERNALLY ADJUSTABLE FROM 90 TO 108 VAC, MINIMUM, SINGLE PHASE TO NEUTRAL, RESET DIFFERENTIAL 2 VAC, MAXIMUM, WITH A STABILITY OF ±1 VAC.
2) -006, -008, -009: FACTORY SET AT 177 VAC L-L (VD1)
3) -007: FACTORY SET AT 103 VAC.

C. HIGH FREQUENCY

1) -005: EXTERNALLY ADJUSTABLE FROM 63 TO 74 HZ, MINIMUM. RESET DIFFERENTIAL, 1 HZ MAXIMUM. STABILITY ± 0.5 HZ.
2) -006, -008, -009: FACTORY SET AT 67 HZ (FD1).

D. HIGH FREQUENCY

1) -004: EXTERNALLY ADJUSTABLE FROM 410 TO 430 HZ, MINIMUM. RESET DIFFERENTIAL, 6 HZ MAXIMUM. STABILITY ± 3.0 HZ.
2) -006, -008, -009: FACTORY SET AT 444 HZ (FD2).
3) -007: FACTORY SET AT 441 HZ.

E. LOW FREQUENCY

1) -005: EXTERNALLY ADJUSTABLE FROM 45 TO 55 HZ, MINIMUM. RESET DIFFERENTIAL, 1 HZ MAXIMUM. STABILITY ± 0.5 HZ.
2) -006, -008, -009: FACTORY SET AT 46 HZ (FD1).

F. LOW FREQUENCY

1) -004: EXTERNALLY ADJUSTABLE FROM 365 TO 385 HZ, MINIMUM. RESET DIFFERENTIAL, 6 HZ MAXIMUM. STABILITY ± 3.0 HZ.
2) -006, -008, -009: FACTORY SET AT 356 HZ (FD2).
3) -007: FACTORY SET AT 359 HZ

3.2.1.7 PHASE SEQUENCE (-004, -005, -007 ONLY)

A. A, B, C.

3.2.2 PHYSICAL

3.2.2.1 DIMENSIONAL CONFIGURATION

A. -004 AND -005 SHALL BE AS DEPICTED ON FIGURE 1.
B. -006, -008, -009 SHALL BE AS DEPICTED ON FIGURE 3.
C. -007 SHALL BE AS DEPICTED ON FIGURE 4.

3.2.2.2 WEIGHT

A.	-004, -005	40 OUNCES MAXIMUM
B.	-006, -008, -009	64 OUNCES MAXIMUM
C.	-007	16 OUNCES MAXIMUM

3.2.2.3 CONNECTOR

A. -005
    1) MUST MATE WITH M83723/75R1624N CONNECTOR.
B. -004
    1) MUST MATE WITH M83723/75R16247 CONNECTOR
C. -006, -008, -009
    1) MUST MATE WITH D38999/46WD35SN CONNECTOR.
D. -007
    1) MUST MATE WITH MS3476W20-16S CONNECTOR

3.2.2.4 PIN CONNECTIONS

A. -004, -005

PIN 1: PHASE A
PIN 2: PHASE B
PIN 3: PHASE C
PIN 4: NEUTRAL
PIN 5: K1-A1 NORMALLY OPEN
PIN 6: K1-A3 NORMALLY CLOSED
PIN 7: K1-B1 NORMALLY OPEN
PIN 8: K1-B3 NORMALLY CLOSED
PIN 9: NO CONNECTION
PIN 10: VOLTAGE OVER/UNDER FAULTS
PIN 11: FREQUENCY OVER/UNDER FAULTS
PIN 12: PHASE OVER/UNDER FAULTS
PIN 13: +28 VDC
PIN 14: -28 VDC
PIN 15: CASE GROUND
PIN 16: NO CONNECTION
PIN 17: K1-A2 COMMON
PIN 18: K1-B2 COMMON
PIN 19: NO CONNECTION
PIN 20: NO CONNECTION
PIN 21: NO CONNECTION
PIN 22: NO CONNECTION
PIN 23: NO CONNECTION
PIN 24: NO CONNECTION

B. -006, -008, -009

PIN 1: NO CONNECTION
PIN 2: NO CONNECTION
PIN 3: NO CONNECTION
PIN 4: NO CONNECTION
PIN 5: NO CONNECTION

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PIN 6: NO CONNECTION
PIN 7: NO CONNECTION
PIN 8: LINE HIGH
PIN 9: LINE NEUTRAL
PIN 10: LINE LOW
PIN 11: 28 VDC
PIN 12: 28 V RETURN
PIN 13: CASE GROUND
PIN 14: VD1 - A COMMON
PIN 15: VD1 - B COMMON
PIN 16: VD1 - B NORMALLY OPEN
PIN 17: VD1- B NORMALLY CLOSED
PIN 18: VD1 - A NORMALLY OPEN
PIN 19: VD1 - A NORMALLY CLOSED
PIN 20: FD1 - A COMMON
PIN 21: FD1 - B COMMON
PIN 22: FD1 - B NORMALLY OPEN
PIN 23: FD1 - B NORMALLY CLOSED
PIN 24: FD1 - A NORMALLY OPEN
PIN 25: FD1 - A NORMALLY CLOSED
PIN 26: FD2 - A COMMON
PIN 27: FD2 - B COMMON
PIN 28: FD2 - B NORMALLY OPEN
PIN 29: FD2 - B NORMALLY CLOSED
PIN 30: FD2 - A NORMALLY OPEN
PIN 31: FD2 - A NORMALLY CLOSED
PIN 32: VD2 - A COMMON
PIN 33: VD2 - B COMMON
PIN 34: VD2 - B NORMALLY OPEN
PIN 35: VD2 - B NORMALLY CLOSED
PIN 36: VD2 - A NORMALLY OPEN
PIN 37: VD2 - A NORMALLY CLOSED

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C. -007

PIN A: PHASE B
PIN B: PHASE C
PIN C: NEUTRAL
PIN D: NO CONNECTION
PIN E: NO CONNECTION
PIN F: NO CONNECTION
PIN G: K1-A1 NORMALLY OPEN
PIN H: K1-A3 NORMALLY CLOSED
PIN J: K1-B1 NORMALLY OPEN
PIN K: K1-B3 NORMALLY CLOSED
PIN L: PHASE A
PIN M: NO CONNECTION
PIN P: NO CONNECTION
PIN R: K1-A2 COMMON
PIN S: K1-B2 COMMON

3.2.3 ENVIRONMENTAL REQUIREMENTS

THE ITEM(S) SHALL FUNCTION AS SPECIFIED, WITHOUT DEGRADATION, WHEN SUBJECTED TO ANY COMBINATION OF OPERATING/NONOPERATING ENVIRONMENTS DEFINED HEREIN.

3.2.3.1 TEMPERATURE

A.	OPERATING	-004, -005, -006, -008, -009	0°C TO 71°C
		-007	-40°C TO +85°C
B.	NONOPERATING	-004, -005, -006, -008, -009	-40°C TO +85°C
		-007	-65°C TO +150°C

3.2.3.2 HUMIDITY

THE ITEM(S) SHALL WITHSTAND THE EFFECTS OF HUMIDITIES UP TO 100%, INCLUDING CONDITIONS WHEREIN CONDENSATION TAKES PLACE ON THE ITEM(S) SPECIFIED. THE ITEM(S) SHALL WITHSTAND THE ABOVE DURING OPERATING AND NONOPERATING CONDITIONS.

3.2.3.3 ALTITUDE

A.	OPERATING	-004, -005,-006, -008, -009	0 TO 6,000 FT MIN
		-007	0 TO 70,000 FT MIN
B.	NONOPERATING	-004, -005, -006, -008, -009	0 TO 40,000 FT MIN
		-007	0 TO 70,000 FT MIN

3.2.3.4 VIBRATION

A. OPERATING

NO REQUIREMENT

B. NONOPERATING

THE RESONANCE FREQUENCY OF THE ITEM(S) SHALL BE A MINIMUM OF 30 HZ. THE ITEM(S) SHALL HAVE THE CAPABILITY OF BEING TESTED IN ACCORDANCE WITH MIL-STD-810, METHOD 514, PROCEDURE X, EXCEPT THE SELECTED TEST CURVE SHALL BE AS SHOWN IN FIGURE 2. AT THE TERMINATION OF THE VIBRATION TEST, A THOROUGH VISUAL INSPECTION SHALL BE MADE TO DETECT ANY DAMAGE CAUSED BY THE TEST. A FUNCTIONAL PERFORMANCE TEST WILL BE RUN BOTH BEFORE AND AFTER THE VIBRATION TEST TO DETERMINE THAT THERE HAS BEEN NO DEGRADATION OF PERFORMANCE BELOW THE SPECIFIED LIMITS AS A RESULT OF THE VIBRATION TEST.

3.2.3.5 SHOCK

A. OPERATING

NO REQUIREMENT

B. NONOPERATING

THE ITEM(S) SHALL HAVE THE CAPABILITY OF BEING TESTED IN ACCORDANCE WITH MIL-STD-810, METHOD 516, PROCEDURE I, EXCEPT THE SHOCK PULSE SHALL BE ONE-HALF SINE WAVE, 7.0 ±0.4 G'S FOR 50 ±1 MILLISECONDS. AT THE TERMINATION OF THE SHOCK TEST, A THOROUGH VISUAL INSPECTION SHALL BE MADE TO DETECT ANY DAMAGE CAUSED BY THE TEST. A FUNCTIONAL PERFORMANCE TEST WILL BE RUN BOTH BEFORE AND AFTER THE SHOCK TEST TO DETERMINE THAT THERE HAS BEEN NO DEGRADATION OF PERFORMANCE BELOW THE SPECIFIED LIMITS AS A RESULT OF THE SHOCK TEST.

3.2.3.6 DIELECTRIC STRENGTH

A. 1000 VRMS, MINIMUM, AT 60 HZ, PINS TO CASE. ON -004 AND -005, EXCLUDE PIN 15. ON -006, -008, -009 EXCLUDE PIN 13.

3.2.3.7 INSULATION RESISTANCE

A. 100 MEGOHMS, MINIMUM, AT 500 VDC, PINS TO CASE.

3.3 DESIGN AND CONSTRUCTION

THE DETAIL DESIGN OF THE ITEM(S) SHALL BE ACCOMPLISHED BY THE MANUFACTURER, SUBJECT TO THE REQUIREMENTS HEREIN, WHICH ARE SPECIFIED ONLY TO THE EXTENT CONSIDERED NECESSARY TO OBTAIN THE DESIRED ITEM(S).

3.4 PRODUCT MARKINGS

3.4.1 ITEM IDENTIFICATION MARKING

ITEMS SHALL BE MARKED IN ACCORDANCE WITH THE TYPE I REQUIREMENTS OF MIL-STD-1285. MINIMUM MARKING SHALL BE AS FOLLOWS:

A. MANUFACTURER'S NAME, SYMBOL, OR CAGE CODE
B. MANUFACTURER'S PERMANENT PART NUMBER
C. SERIALIZATION NUMBER

3.5 DOCUMENTATION

DOCUMENTATION REQUIRED FOR SUBMITTAL SHALL BE AS SPECIFIED IN PARAGRAPH 4.

3.6 SPECIAL TESTING

THE MANUFACTURER IS RESPONSIBLE FOR SCREENING AND FINAL ADJUSTMENTS AS SPECIFIED IN PARAGRAPH 4.

3.7 INTERCHANGEABILITY

DELIVERABLE HARDWARE HAVING THE SAME PART NUMBER IDENTIFIER SHALL BE INTERCHANGEABLE FOR FORM, FIT, AND FUNCTION.

3.7.1 PRODUCT CHANGE

THE MANUFACTURER SHALL NOTIFY THE PROCURING ACTIVITY PRIOR TO THE IMPLEMENTATION OF ANY CHANGE OF THE PRODUCT WHICH MAY AFFECT PERFORMANCE, QUALITY, RELIABILITY, OR INTERCHANGEABILITY. SUCH NOTIFICATION SHALL INCLUDE A THOROUGH DESCRIPTION OF THE PROPOSED CHANGE AND A SUGGESTED TEST PLAN DESIGNED TO DEMONSTRATE THAT THE CHANGE WILL NOT ADVERSELY AFFECT THE SPECIFIED REQUIREMENTS FOR PERFORMANCE, QUALITY, RELIABILITY, OR INTERCHANGEABILITY. THE PROCURING ACTIVITY WILL APPROVE OR DISAPPROVE THE CHANGE AND NOTIFY THE MANUFACTURER. AT THE MANUFACTURER'S OPTION, ITEMS INCORPORATING THE CHANGE MAY BE MANUFACTURED AND TESTED PRIOR TO APPROVAL; HOWEVER, APPROVAL FROM THE PROCURING ACTIVITY MUST BE RECEIVED PRIOR TO SHIPMENT.

3.8 RELIABILITY

THE MTBF OF THE ITEM(S) SHALL BE NOT LESS THAN 1×10^5 HOURS WHEN OPERATING UNDER THE FOLLOWING CONDITIONS.

A.	TEMPERATURE	30°C
B.	HUMIDITY	60%

3.8.1 REMOVED

3.8.1.1 REMOVED

3.9 WORKMANSHIP

THE ITEMS SHALL BE MANUFACTURED AND PROCESSED IN SUCH A MANNER AS TO BE UNIFORM IN QUALITY, AND EXTERNAL SURFACES SHALL BE FREE FROM TOOL MARKS, BURNS, DEEP SCRATCHES, AND ANY OTHER DEFECTS THAT WILL AFFECT LIFE, SERVICEABILITY, OR APPEARANCE.

3.10 SAFETY

ENGINEERING AND DESIGN CRITERIA SHALL CONFORM TO BEST COMMERCIAL STANDARDS FOR EQUIPMENT OF THIS CATEGORY AND SHALL NOT PRESENT ANY SIGNIFICANT HAZARDS TO PERSONNEL DURING NORMAL OPERATION OR MAINTENANCE.

4. QUALITY ASSURANCE PROVISIONS

4.1 TESTING

NO PROVISIONS OR PORTIONS OF THIS DOCUMENT, EXCEPT AS SPECIFIED IN PARAGRAPH 3.6, SHALL BE CONSTRUED TO REQUIRE THE SUPPLIER TO MAKE ANY PRODUCTION OR PRESHIPMENT TESTS OTHER THAN THOSE NORMALLY PERFORMED DURING MANUFACTURE AND PACKAGING OF THE ITEM(S) DESCRIBED HEREIN. UNITS SUBMITTED OR SUPPLIED IN ACCORDANCE WITH THIS DOCUMENT SHALL BE CAPABLE OF MEETING OR PASSING ANY AND ALL REQUIREMENTS SPECIFIED HEREIN. THE PROCURING ACTIVITY RESERVES THE RIGHT TO PERFORM INSPECTIONS TO ASSURE THAT SUPPLIES AND SERVICES CONFORM TO THE PRESCRIBED REQUIREMENTS.

4.2 DOCUMENTATION SUBMITTAL

SUPPLIER SHALL SUBMIT DOCUMENTATION AS SPECIFIED IN PARAGRAPH 4.2.1 AND AS STATED IN THE REQUEST FOR QUOTES.

4.2.1 REMOVED

4.3 SCREENING/BURN-IN/TESTING

4.3.1 SCREENING/BURN-IN/TESTING

EACH ITEM DELIVERED SHALL BE SUBJECTED TO A BURN-IN OF 96 HOURS, MINIMUM, UNDER THE FOLLOWING CONDITIONS:

A. T_A = 70°, ±1°C

B. SENSING POWER APPLIED FOR -004, -005, AND -007 SHALL BE 115, ±10 VRMS, THREE-PHASE . FOR -006,-008, -009 USE SENSING POWER OF 220 ±10 VRMS AT 50/60/400 HZ

C. 28 VDC, APPLIED (-004, -005, -006, -008, -009)

D. 1) 12 HOURS, MIN, AT 70°C, MIN
   2) 24 HOURS, MIN, AT T_A = 23°, ±10°C
   3) 12 HOURS, MIN, AT 70°C, MIN
   4) 24 HOURS, MIN, AT T_A +23°, ±10°C
   5) X HOURS, AT T_A = 23°, ±10°C AND/OR 70°C, MIN

TOTAL HOURS SHALL = 96 HOURS, MIN

DURING BURN-IN, THE ITEMS SHALL BE MONITORED TO ASSURE NO FAILURES OCCUR. IF A FAILURE IS OBSERVED DURING BURN-IN, THE ITEM SHALL BE REMOVED, THE FAILURE MODE ESTABLISHED, GDED SHALL BE NOTIFIED OF THE FAILURE AND OF THE CORRECTIVE ACTION TAKEN. THE FAILED ITEM AFTER REPAIRS MAY BE RETURNED TO BURN-IN. FOR THE REPAIRED ITEM, TIME EQUALS ZERO HOURS. ANY ONE ITEM MAY BE REPAIRED A MAXIMUM OF THREE (3) TIMES.

4.3.1.1 FUNCTIONAL TESTING, T_A = 25°, ±5°C

EACH ITEM UPON COMPLETING BURN-IN SHALL BE SUBJECTED TO A FUNCTIONAL TEST THAT SHALL SATISFY THE REQUIREMENTS SPECIFIED IN PARAGRAPH 3.2.1 AND SUBPARAGRAPHS THERETO.

4.3.1.2 ADJUSTMENTS

EACH ITEM, PRIOR TO SHIPMENT, SHALL HAVE THE FOLLOWING ADJUSTMENTS MADE. THE POTENTIOMETERS THAT CONTROL THESE ADJUSTMENTS SHALL BE SEALED, AFTER FINAL ADJUSTMENT, IN SUCH A MANNER THAT IF A POTENTIOMETER SETTING HAS BEEN CHANGED FROM THE FACTORY SETTING, SAID CHANGE SHALL BE CLEARLY VISIBLE.

A. VOLTAGE, ±0.5% (VD1), ±1.0% (VD2), 50 AND 60 HZ (-006, -008, -009) ±.5V, 50 AND 60 HZ (-005)
   1) HIGH
      -005: 127.0 VRMS (HI-V)
      -006, -008, -009: 268.0 VRMS L-L (VD1) AND 156.0 VRMS L-N (VD2)
   2) LOW
      -005: 107.0 VRMS (LO-V)
      -006, -008, -009: 177.0 VRMS L-L (VD1)

B. FREQUENCY, ±.5 HZ, 50 AND 60 HZ
   1) HIGH
      -005: 67 HZ (HI-F)
      -006, -008, -009: 67 HZ (FD1)

   2) LOW
      -005: 46 HZ (LO-F)
      -006, -008, -009: 46 HZ (FD1)

C. VOLTAGE, ±0.5% (VD1), ±1.0% (VD2), 400 HZ (-006, -008, -009) ±.5V, 400 HZ (-004, -007)
   1) HIGH
      -004: 125.0 VRMS (HI-V)
      -006, -008, -009: 268.0 VRMS L-L (VD1) AND 156.0 L-N VRMS (VD2)
      -007: 127.0 VRMS

2) LOW
-004: 103.0 VRMS (LO-V)
-006, -008, -009: 177.0 VRMS L-L (VD1)
-007: 103.0 VRMS

D. FREQUENCY,±1 HZ, 400 HZ

1) HIGH
-004: 421.0 HZ (HI-F)
-006, -008, -009: 444.0 HZ (FD2)
-007: 441.0 HZ

2) LOW
-004: 379.0 HZ (LO-F)
-006, -008,-009: 356.0 HZ (FD2)
-007: 359.0 HZ

E. TIME DELAY

1) -004, -005, -007: 2 SECONDS (±0.2 SECONDS) (ON & OFF).
2) -006: 1.5 SECONDS, MINIMUM, 2.5 SECONDS, MAXIMUM ON. 250 MILLISECONDS OFF.
3) -008: 1.5 SECONDS, MINIMUM, 2.5 SECONDS, MAXIMUM ON. 150 MILLISECONDS TO 250 MILLISECONDS OFF FOR VD1 AND VD2. 250 MILLISECONDS, MAXIMUM OFF FOR FD1 AND FD2.
4) -009: 1.5 SECONDS, MINIMUM, 2.5 SECONDS, MAXIMUM ON. 150 MILLISECONDS TO 250 MILLISECONDS OFF FOR VD1, VD2, FD1 AND FD2.

F. REMOVED

4.3.1.3 CONTACTS (-006, -008, -009)

EACH RELAY CONTACT SHALL BE TESTED FOR A MAXIMUM OF 0.15 OHMS AT 2 AMPS DC.

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5. PREPARATION FOR DELIVERY

5.1 INSPECTION

ITEMS SUPPLIED UNDER THIS DOCUMENT SHALL BE EXAMINED TO VERIFY CORRECTNESS OF PRODUCT IDENTIFICATION AND TO ALLOW A FINAL CHECK FOR EVIDENCE OF DAMAGE OR VIOLATION OF EXTERNAL COSMETICS JUST PRIOR TO SHIPMENT PACKAGING. ITEMS WITH DEFECTS SHALL NOT BE SUPPLIED.

5.2 UNIT PACKAGE

THE UNIT PACKAGE IS THE PRIMARY PROTECTION PACKAGE FOR THE ITEM. THE ITEM SHALL BE HELD INDIVIDUALLY BY THIS PACKAGE.

5.2.1 UNIT PACKAGE MARKING

THE UNIT PACKAGE SHALL BE MARKED WITH INFORMATION TO COMPLETE THE FOLLOWING:

A. SUPPLIER'S NAME, SYMBOL, OR CAGE CODE.
B. SUPPLIER'S IDENTIFYING NUMBER
C. THE PROCURING ACTIVITIES CONTROL NUMBER AND APPLICABLE DASH NUMBER.

5.3 SHIPPING CONTAINER

THE UNIT PACKAGE(S) SHALL BE SURROUNDED BY A CONTAINER THAT WILL ENSURE ACCEPTANCE BY COMMON CARRIER, EITHER SURFACE OR AIR, AND YET AFFORD SUFFICIENT PROTECTION FROM DAMAGE DURING ALL PHASES OF SHIPMENT.

5.3.1 SHIPPING CONTAINER MARKING

THE SHIPPING CARTON OR CONTAINER SHALL BE MARKED WITH INFORMATION TO COMPLETE THE FOLLOWING:

A. CONSIGNEE'S NAME AND ADDRESS
B. CONSIGNEE'S IN-HOUSE DELIVERY POINT
C. PURCHASE ORDER NUMBER
D. CONSIGNOR'S NAME AND ADDRESS

NOTES

A. ORDERING DATA

THE PURCHASE ORDER OR CONTRACT SHALL SPECIFY THE FOLLOWING:

1. THIS DOCUMENT NUMBER, APPROPRIATE DASH NUMBERS AND REVISION LETTER.

B. PART NUMBER

ITEM(S) SUPPLIED UNDER THIS DOCUMENT SHALL BE IDENTIFIED BY THE SUPPLIER WITH A PERMANENT PART NUMBER THAT REFLECTS THE PROCURING ACTIVITIES REQUIREMENTS, AS SPECIFIED HEREIN.

C. REMOVED

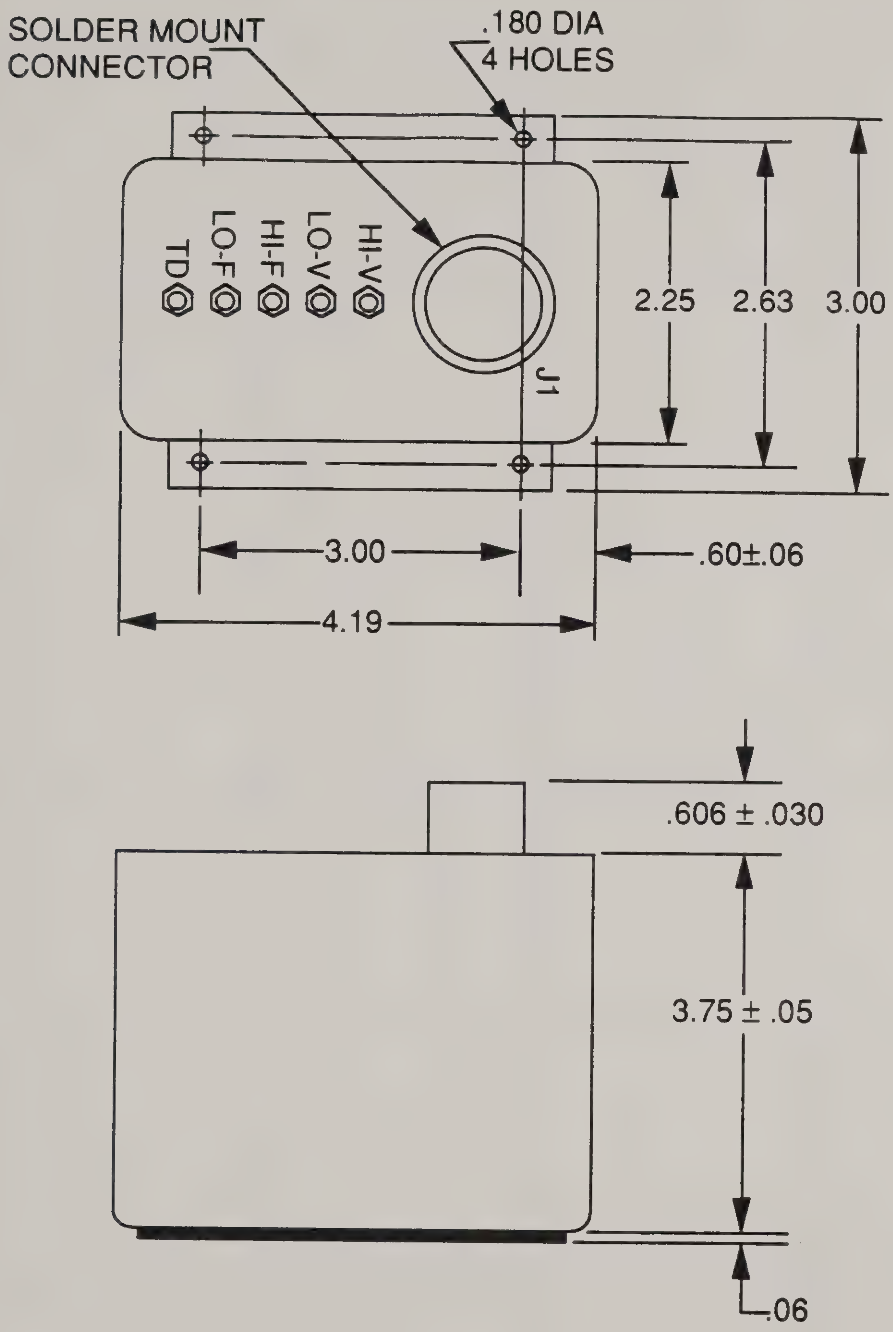
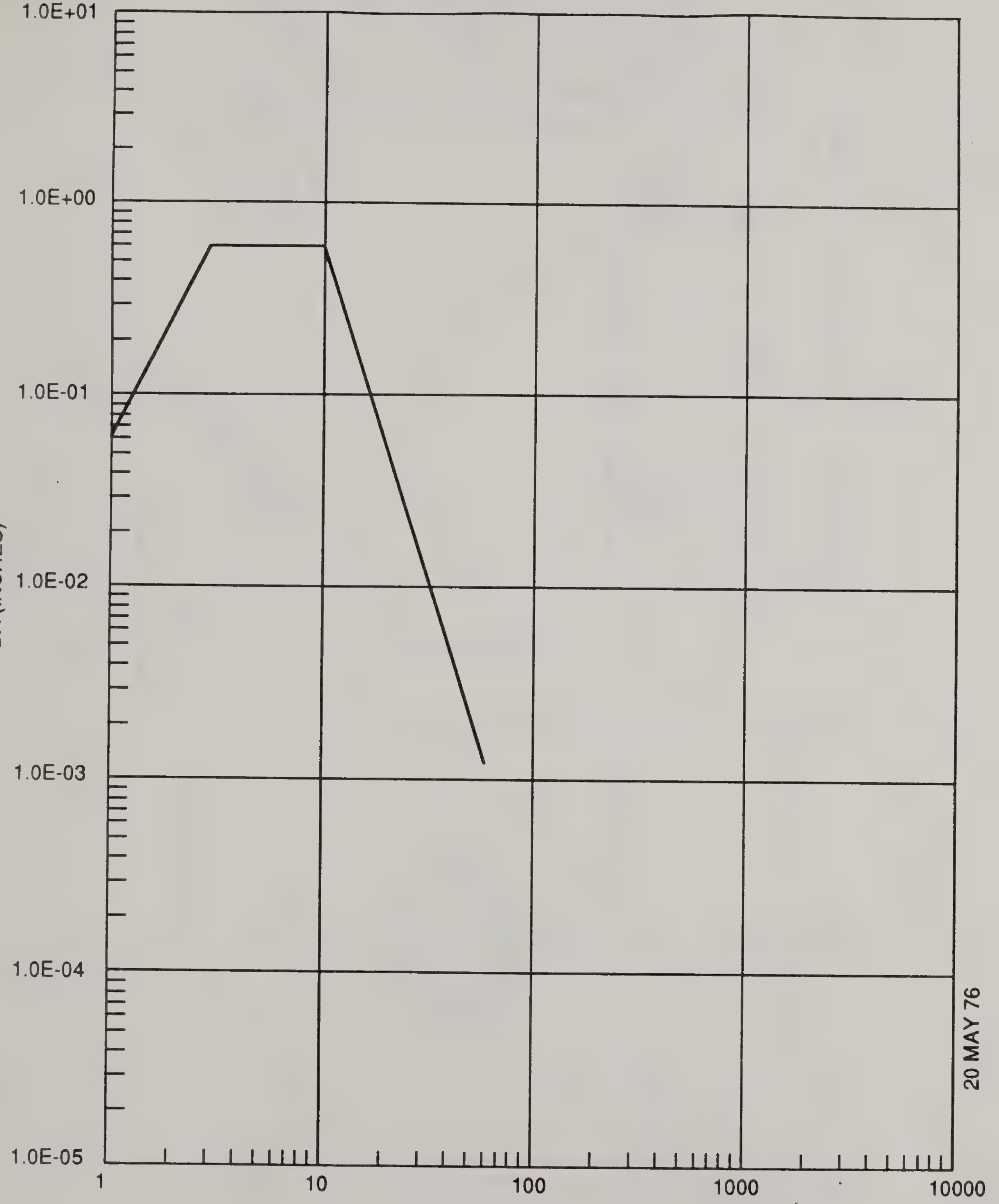


FIGURE 1 (-004, -005)

SIZE **A**	CAGE CODE **12436**	DRAWING NO. 6010663	
SCALE NONE	REV G		SHEET 24



FREQUENCY (HZ)

FIGURE 2
VIBRATION CURVE

SIZE	CAGE CODE	DRAWING NO.	
A	**12436**	6010663	
SCALE NONE		REV G	SHEET 25

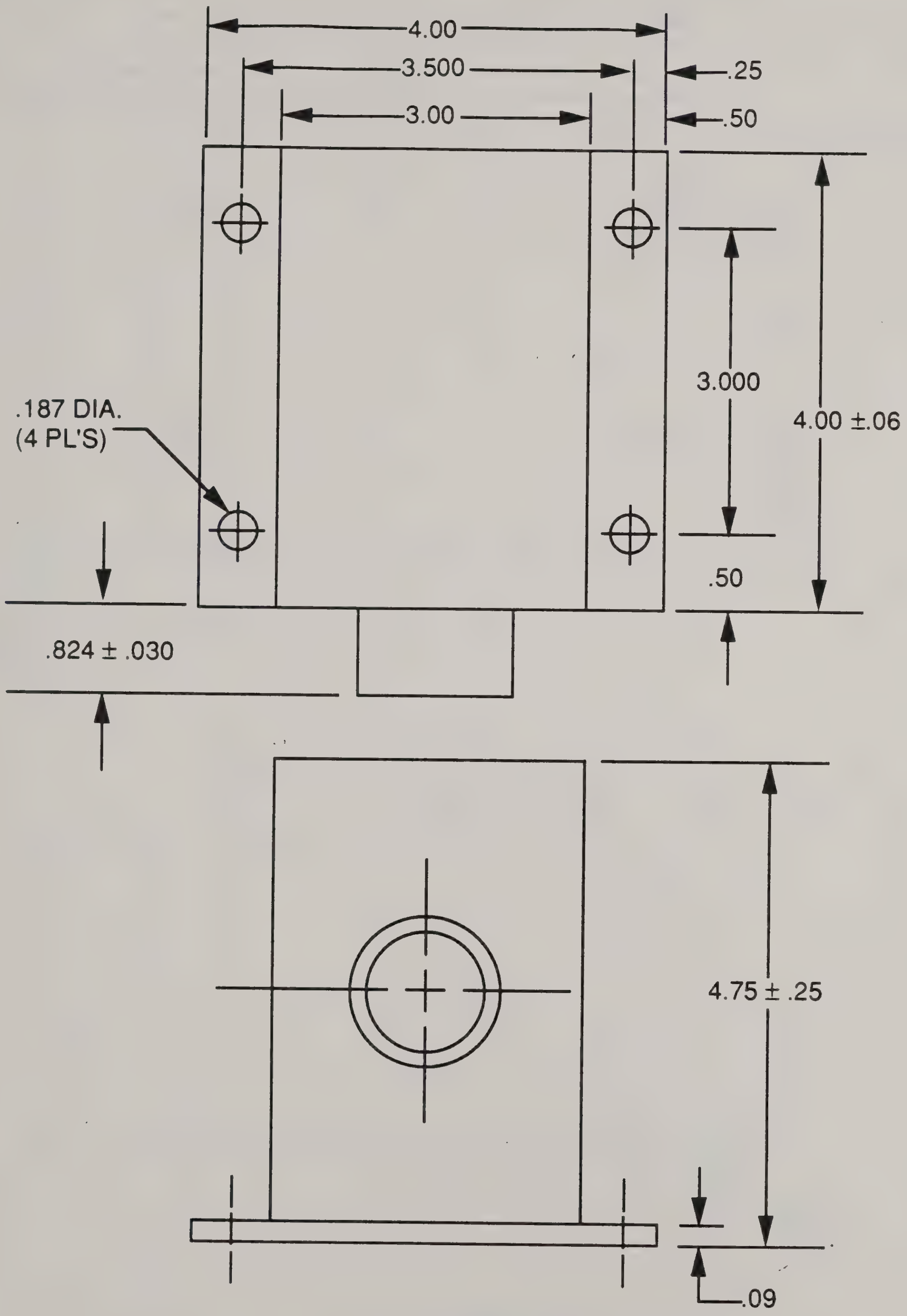


FIGURE 3 (-006, -008, -009)

SIZE **A**	CAGE CODE **12436**	DRAWING NO. 6010663
SCALE NONE	REV G	SHEET 26

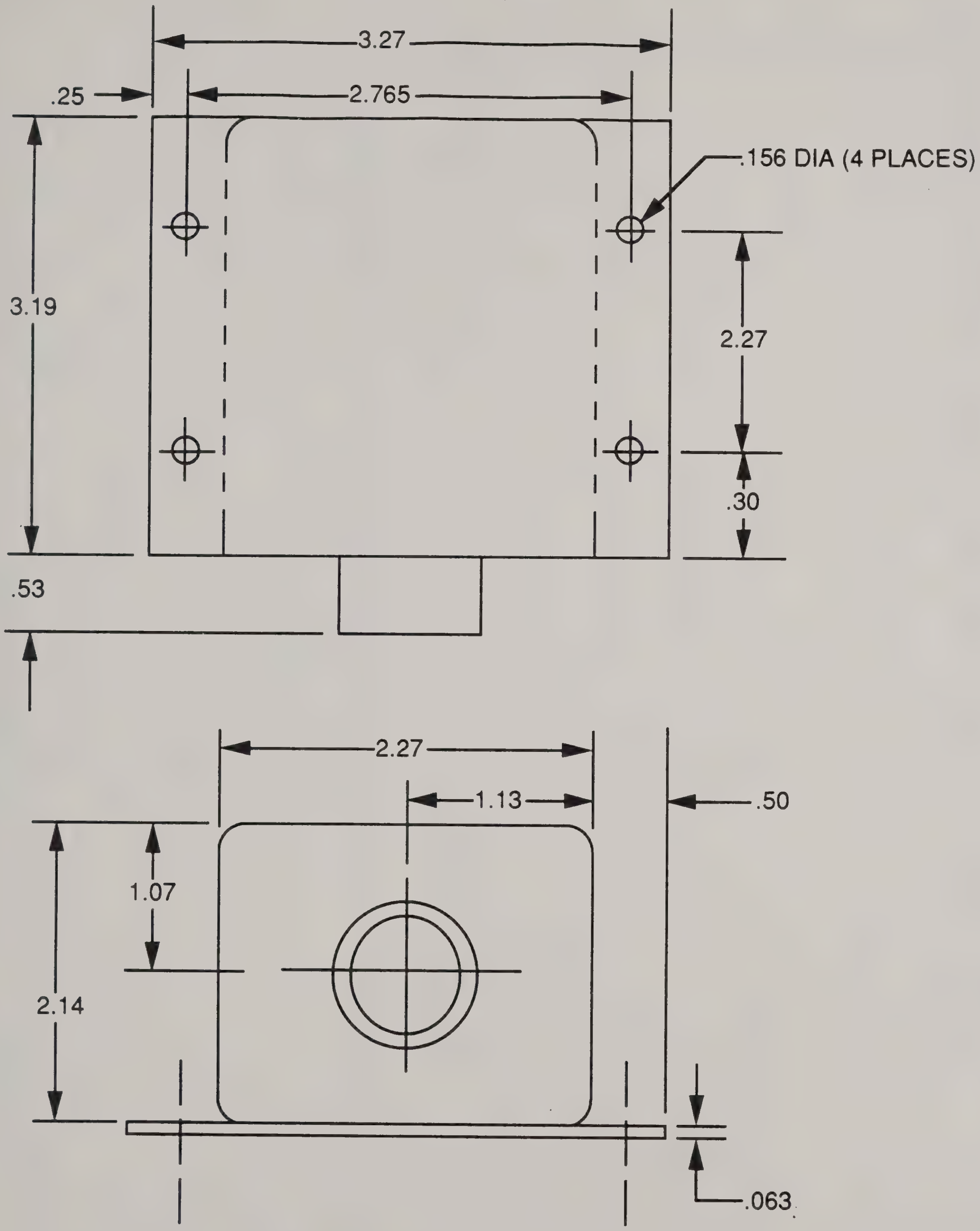


FIGURE 4 (-007)

SIZE **A**	CAGE CODE **12436**	DRAWING NO.	6010663
SCALE NONE	REV G		SHEET 27

GENERAL DYNAMICS
ELECTRONICS DIVISION SAN DIEGO, CA

CHANGE NOTICE

FSCM 12436	CONTRACT NO F33657-88-C-0037		CONTR CODE RK6	SER NO H 10569	DRAWING NO 6010653	
SHEET 1 OF 1	DCN ☐ ECN ☒	LIA SOW ☒	PL ONLY ☐ TO BE INC ☐	CHG CODE E4	INTERPRETATION PER 1000327	REV LTR DWG J PL

CONFIGURATION ITEM	EFFECTIVITY	TC	DWG TITLE: POWER MONITOR, LINE
1 RECORD CHANGE			

REASON FOR CHG: ALL PREVIOUS AND PRESENT UNITS BUILT TO REVISED DIMENSIONS

SD-STOCK DISPOSITION: 1-UNAFFECTED 2-REWORK 3-DISPOSE 4-STOCK 5-USE 6-HOLD

TC-TRANSACTION CODE: C-CREATE D-DECREASE R-REVISE L-LIMIT A-ADD

IND-INDICATOR: A-ALTERNATE S-SUBSTITUTE P-MAKE FROM V-VERSION

DRAWING SHEET STATUS	SIZE	SH	REV	SH	REV	SH	REV	SH	REV	SH	REV	SH	REV	SH	REV	SH	REV	SH	REV	SH	REV	SH	REV	SH	REV	SH	REV	SH	REV	SH	REV	SH	REV

TC	CI	IND	ITEM NO	PART NUMBER	QTY PER ASSY	ASSY DASH	REFERENCE DESIGNATORS	FSCM	MATERIAL SPEC	NOMENCLATURE	PART TYPE	NOTE	SD

CHANGE FIGURE 3 DIMENSIONS

FROM: 4.75 ± .25 TO: 4.00 ± .25

FROM: .824 ± .030 TO: 1.25 MAX

TC	CI	IND	PART NUMBER	NEXT ASSY / QTY REQD	END ART	SAME AS	QTY DASH REPLACED	OLD NEXT ASSEMBLY DRAWING OR DASH NO	NEW NEXT ASSEMBLY DRAWING OF DASH NO	NOMENCLATURE	PART TYPE	NOTE	SD

REMARKS REF SIR E1053 CLASS II
PARTS CONFORM TO THE DIM. CHANGE
PWR; CONT. UNIT

PREP BY R BUSSETT
ENGR R Bussett
CHECK
SECT HD R. Bussett
CK
APPROVAL
APPD ☐
TBL ☐
REV ☐
RELEASE DATE

-632, 02/88

SMEAD'S
PLITOP
2
FOLDER
No. 2-103½L